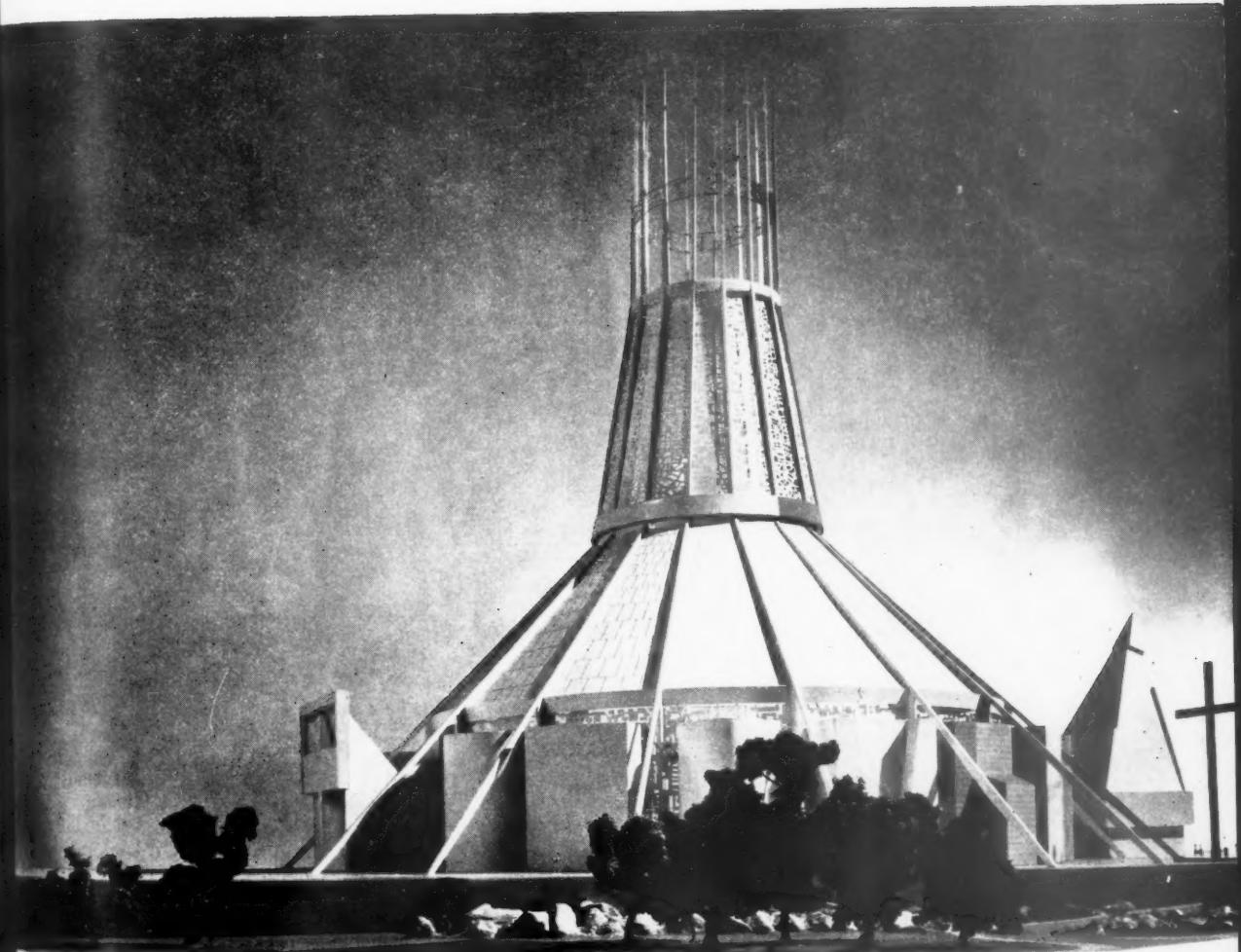


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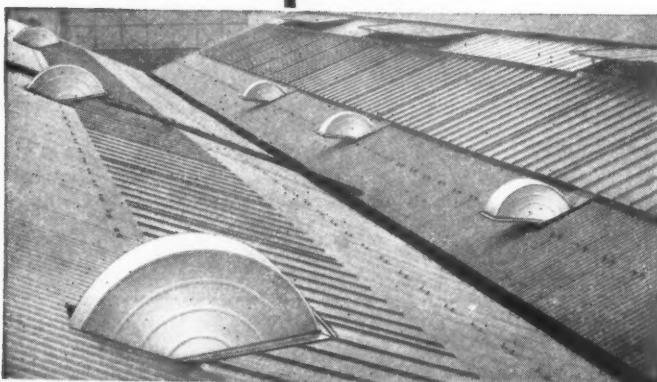
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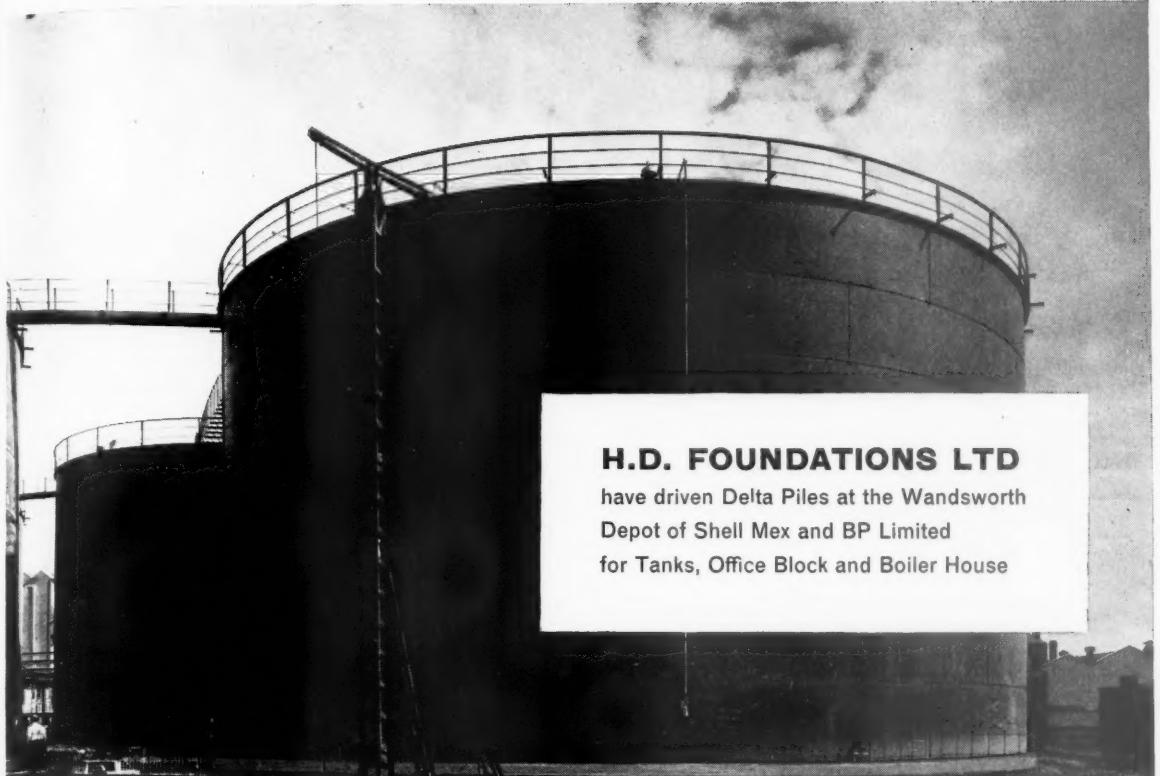
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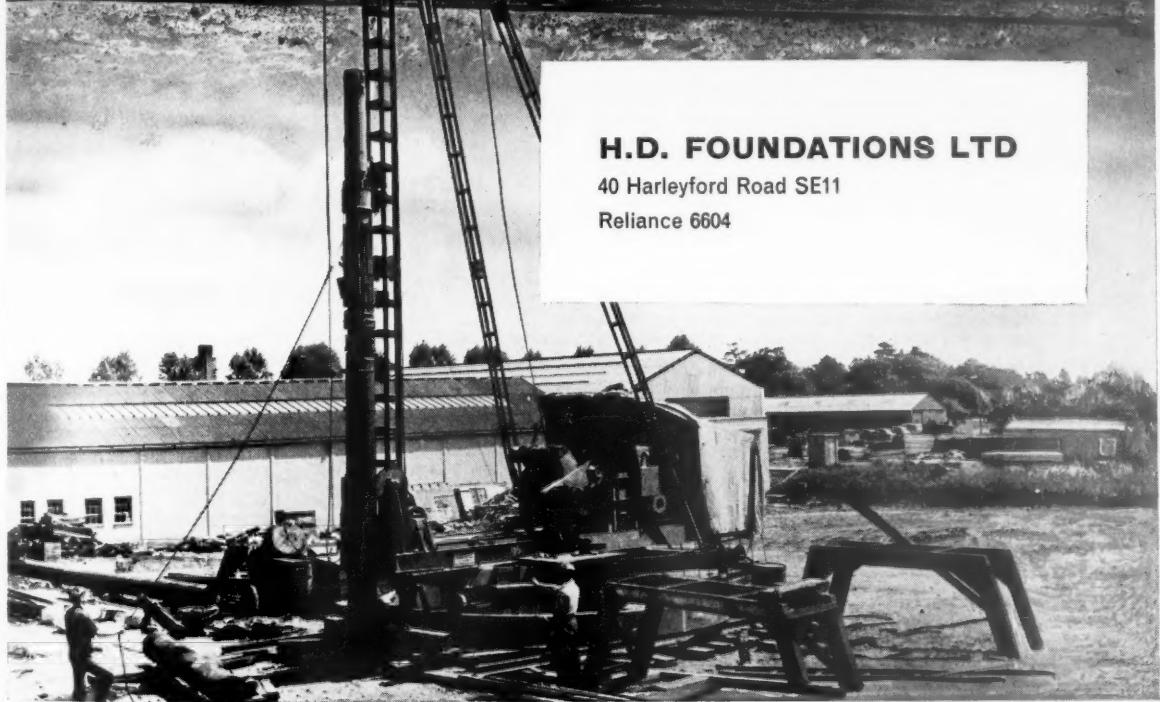
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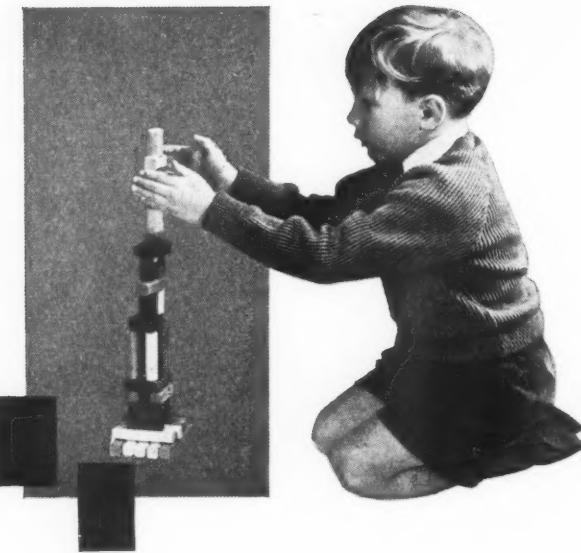
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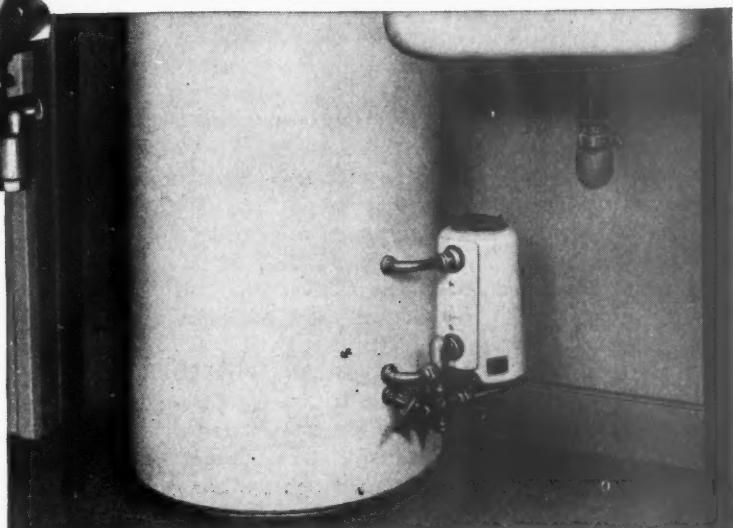
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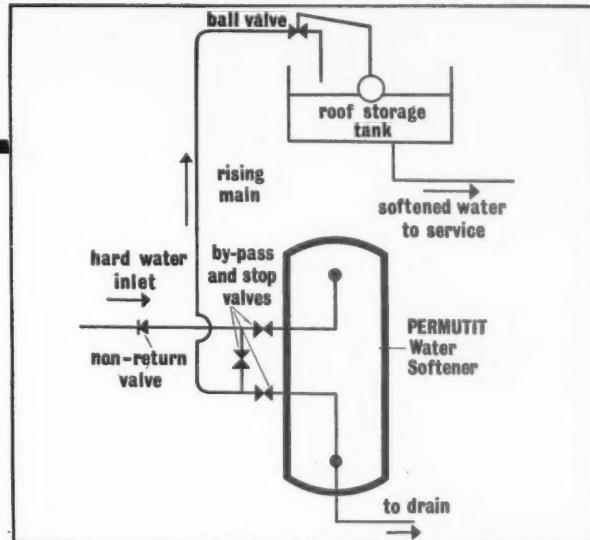


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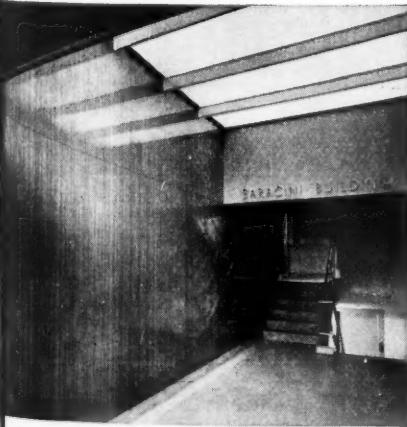
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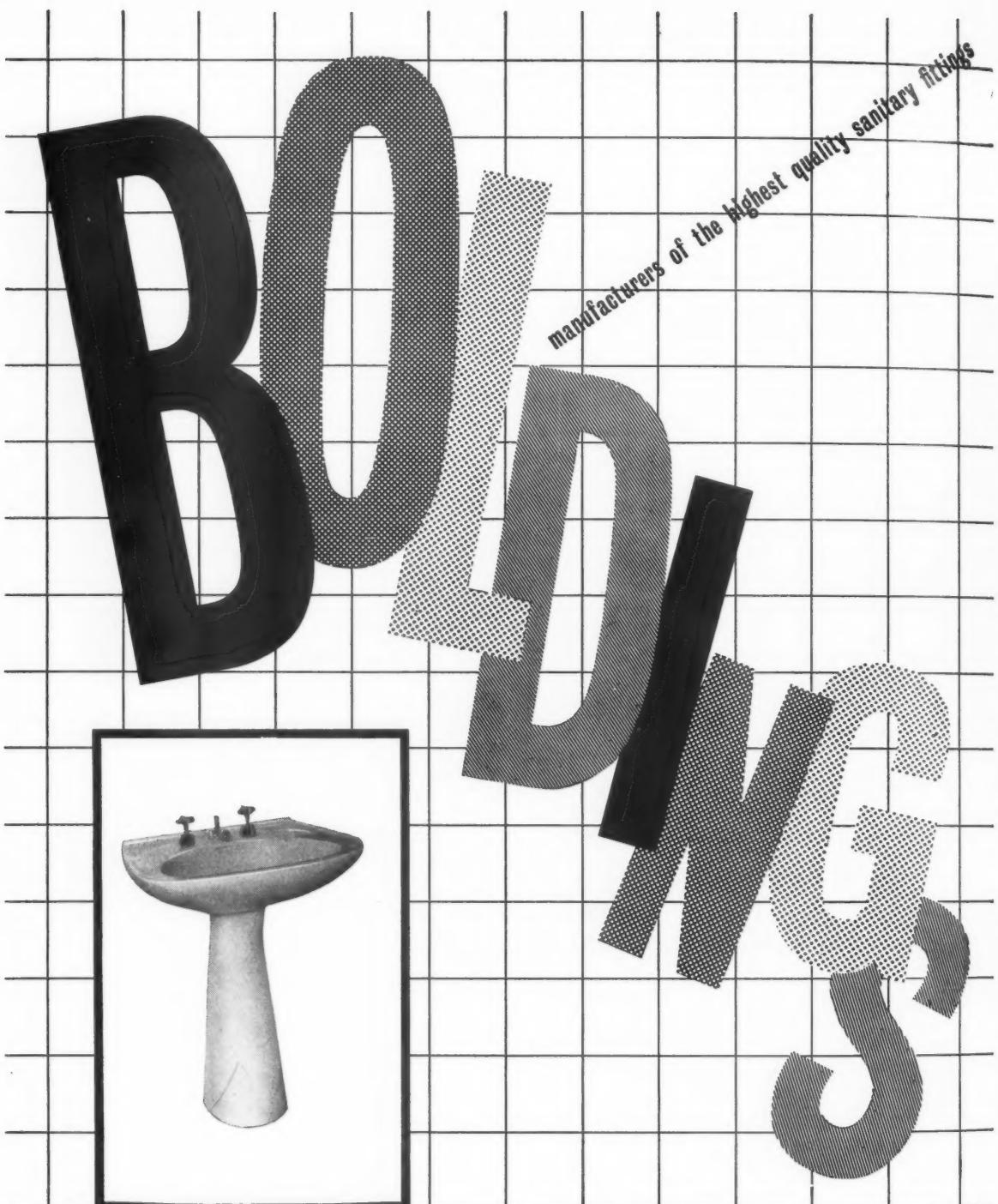
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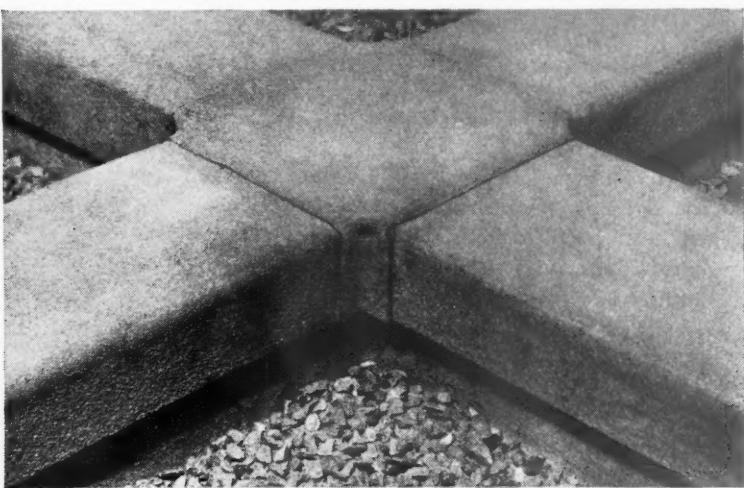
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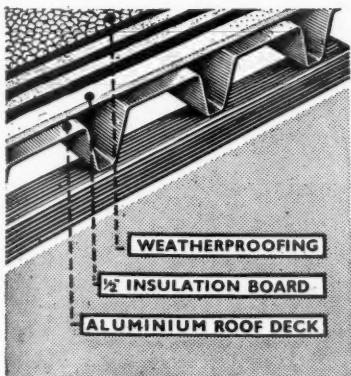
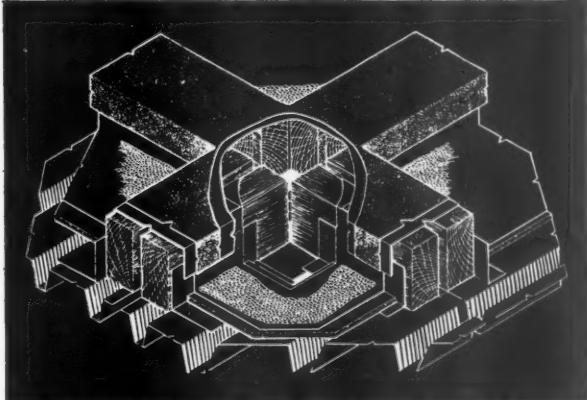
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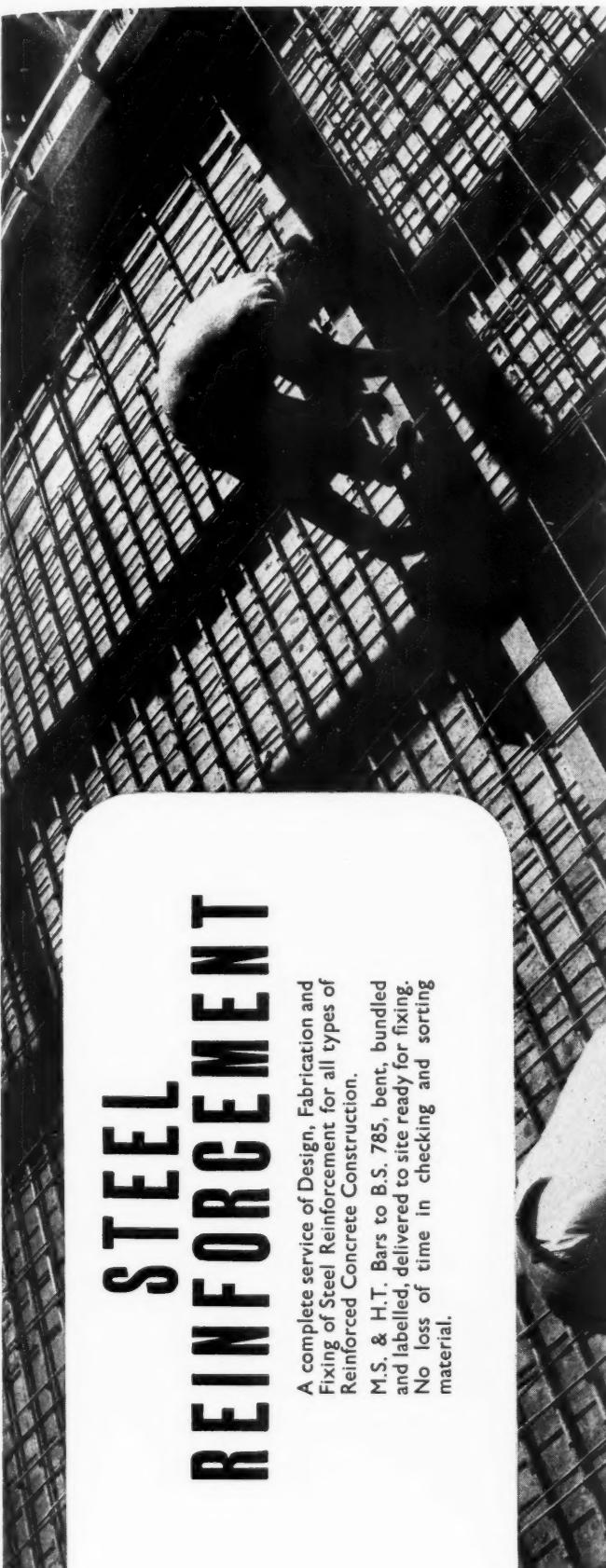
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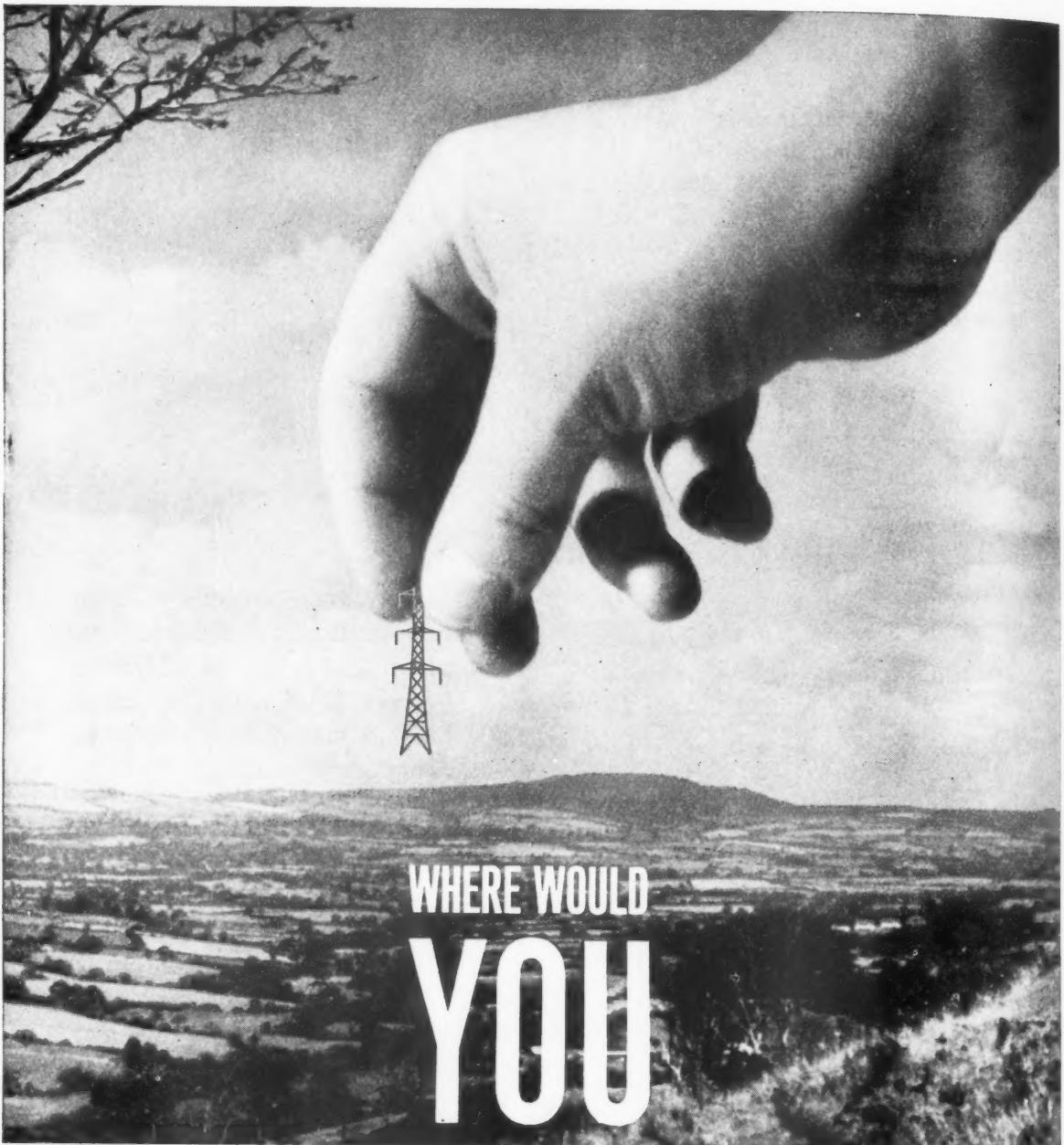
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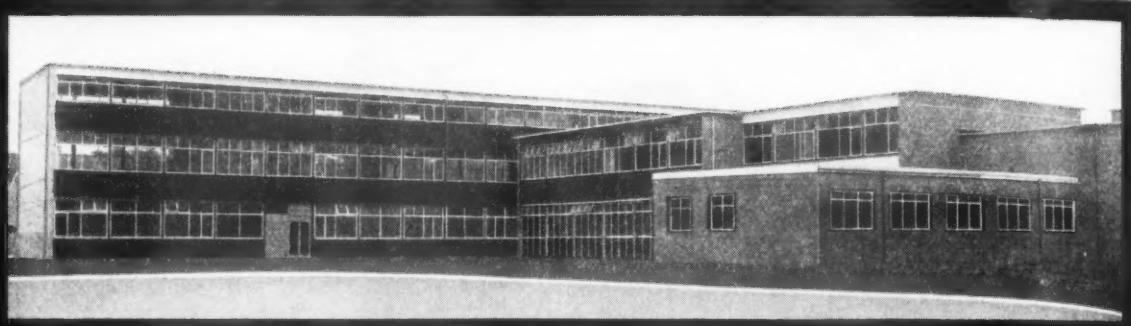


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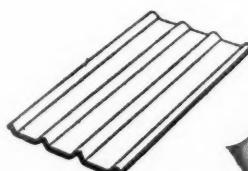
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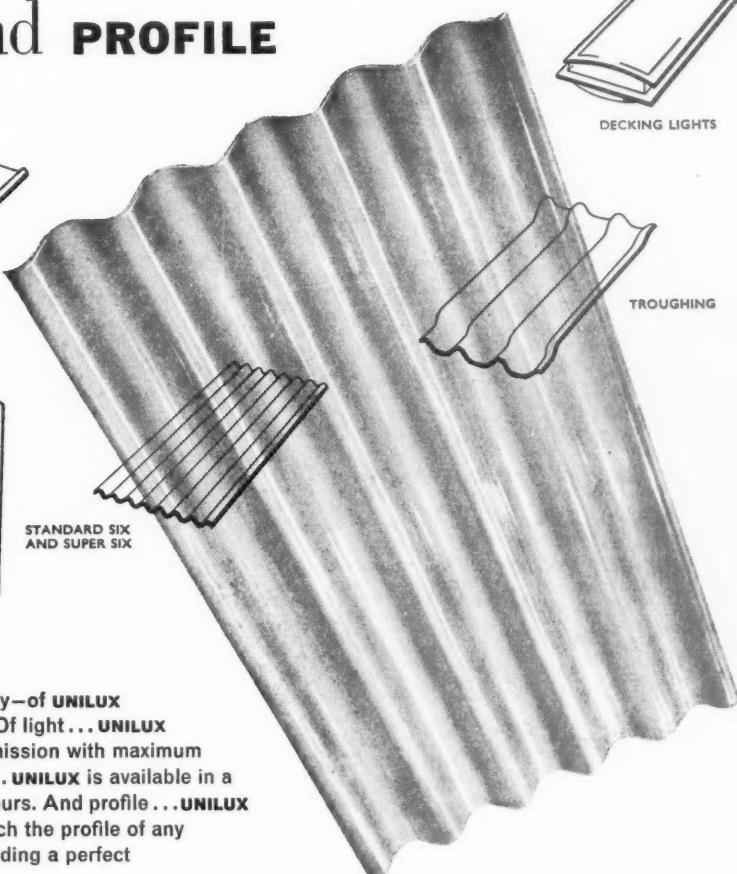
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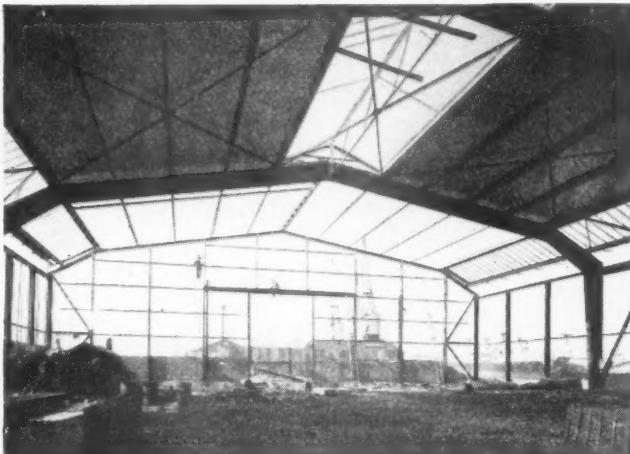
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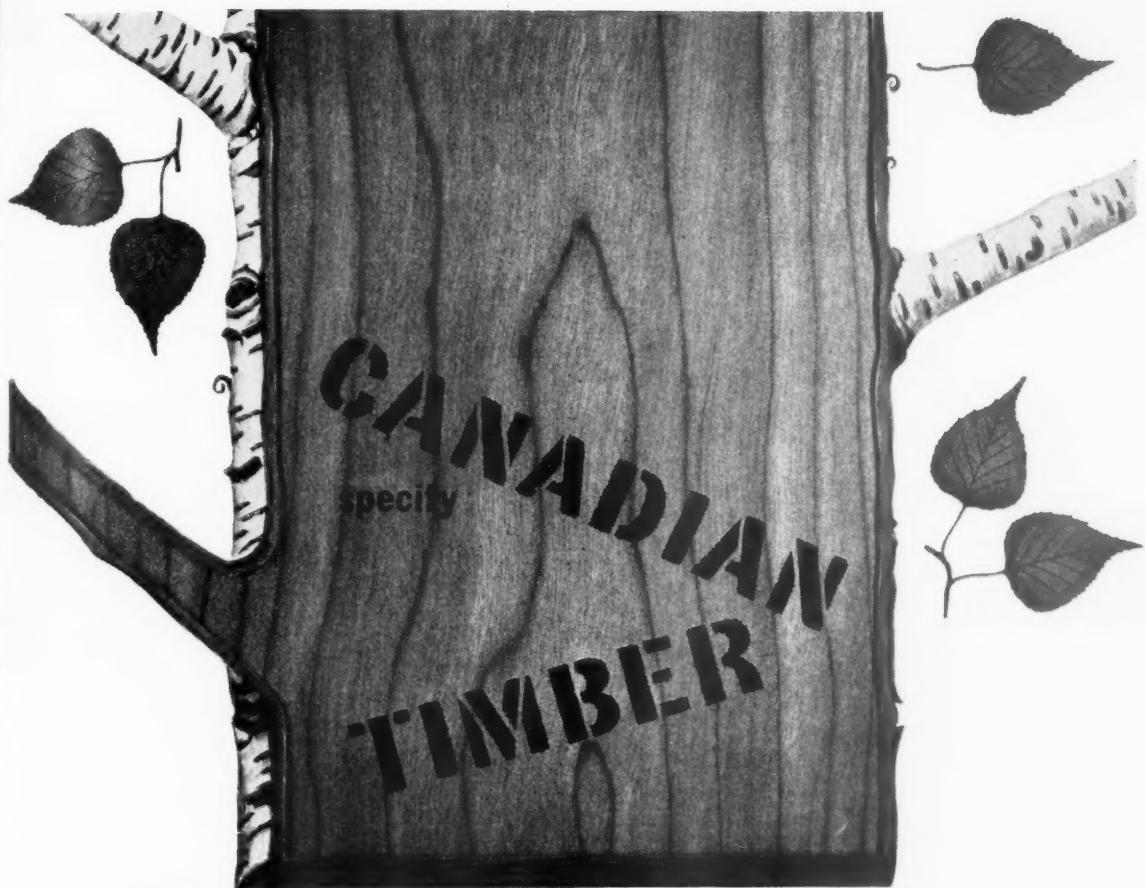
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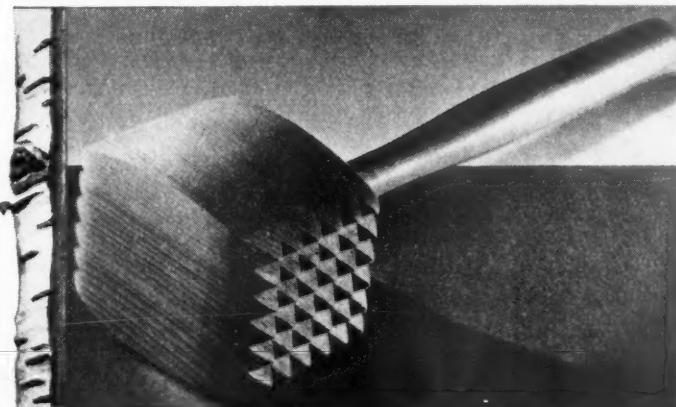
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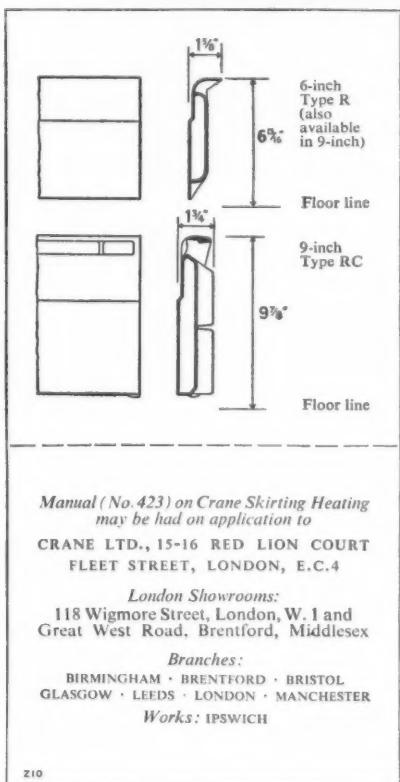
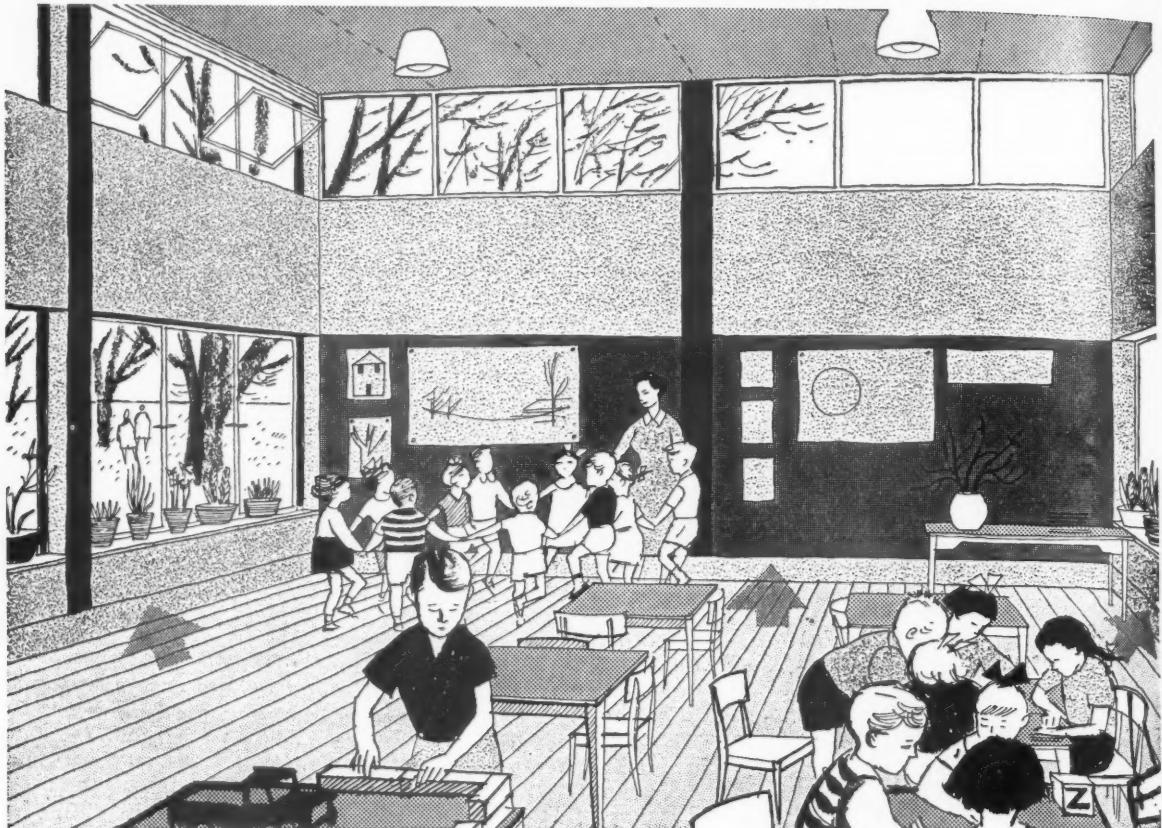
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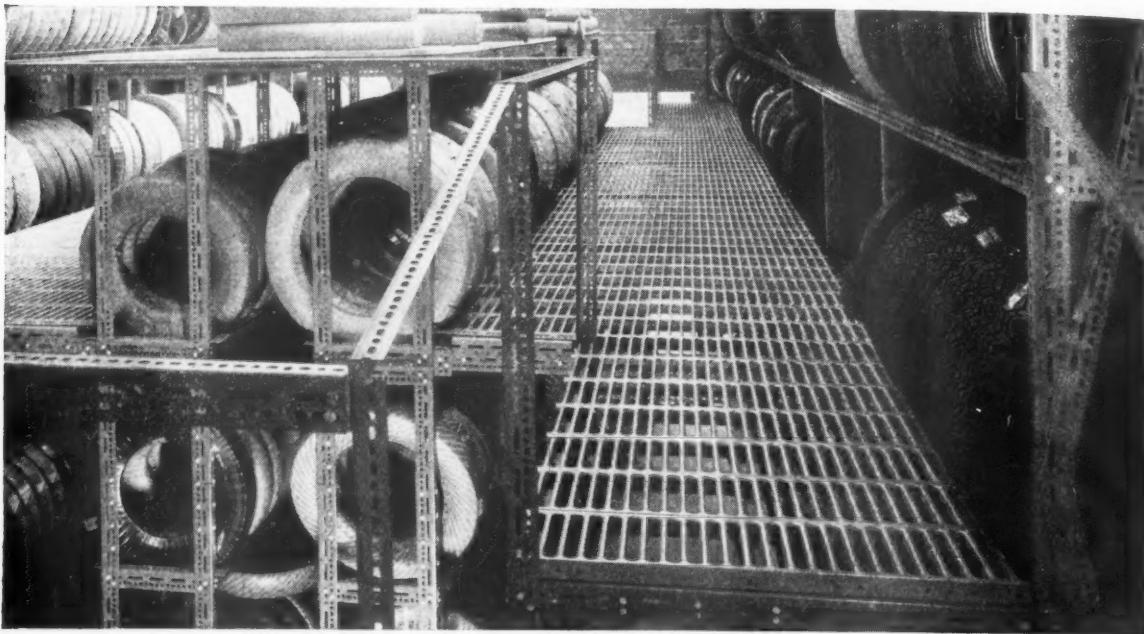
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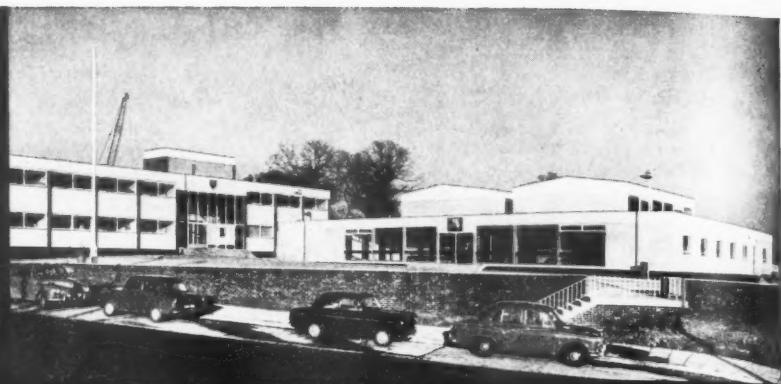
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Austin Motor Co. Ltd., Engineers Office Block, Longbridge.
Architects: Harry W. Weedon, F.R.I.B.A., & Partners.



The Mansfield Building Society.
Architect: W. Richardson White, F.R.I.B.A.



University College of Swansea, Natural Sciences Building.
Architects: Sir Percy Thomas & Son, F.R.I.B.A., A.R.I.B.A.



Multiple Shops, Stevenage New Town.
Architect: L. G. Vincent, A.R.I.B.A., Chief Architect, Stevenage Development Corporation.



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Architect: G. S. Hay, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., Manchester.

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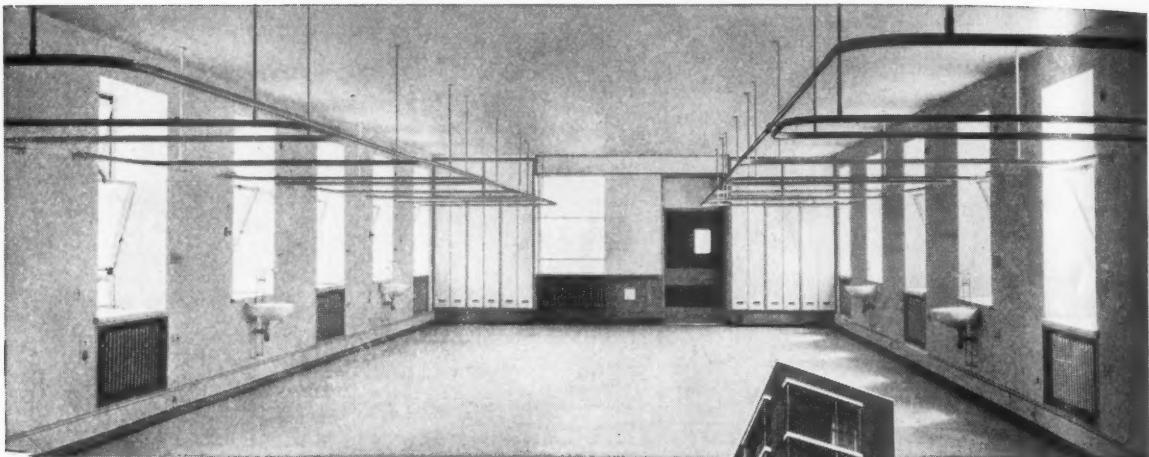
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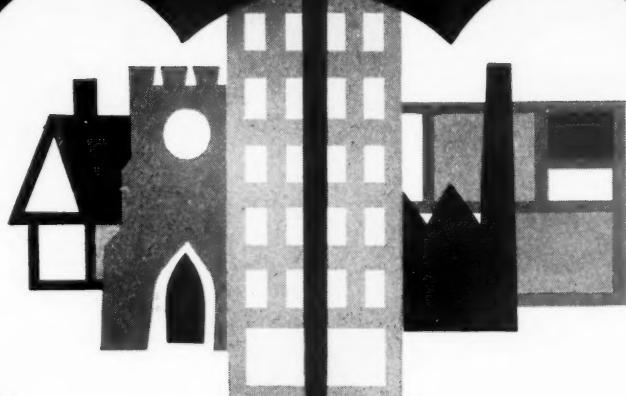
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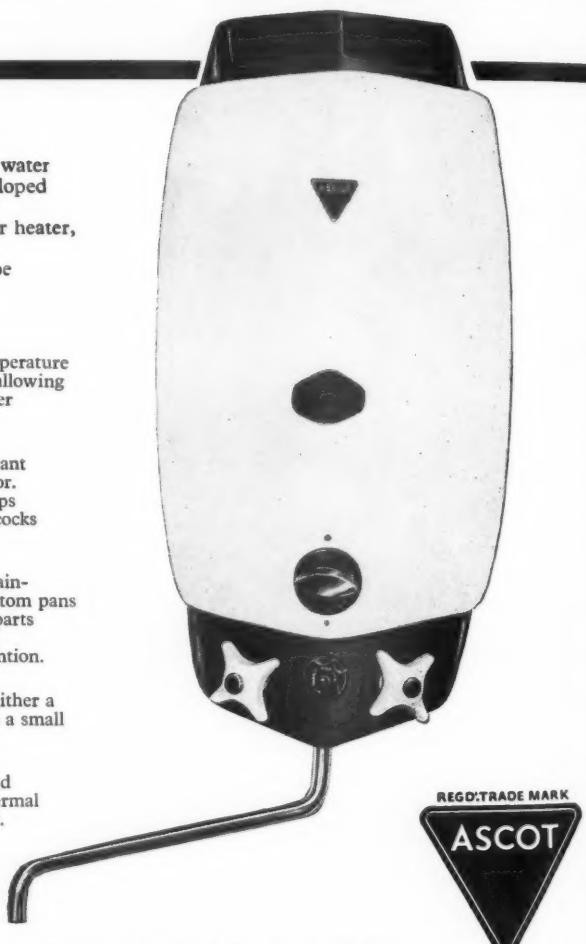
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The Journal of the Royal Institute of British Architects

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October 1960
Third Series Volume 67 No. 12
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'FABER FORTUNAE SUAE'¹

How should the architect of the future be trained? And what ought his range of skills and functions to be? What complementary skills does he need from supporting staff, professional and non-professional, and how ought they, too, to be trained?

Is it right, and feasible, to adjust the RIBA scale of fees as a whole or in part to provide better rewards for architects, and thus both improve upon the 'Pilkington' scale of values and make possible higher standards of service to the client?

How can the RIBA help members to provide optimum services to the client through higher technical standards and better office management?

For the Council and Committees of the Institute, intent upon reappraisal, these are all crucial questions. To find the best answers for the future both of the profession and of the society it seeks to serve is at once a clear duty and a stimulating challenge.

Help is needed from members, however, for sound judgments will be grounded in sound facts – facts about the way architects conduct their work, how offices are staffed and organised, what their costs are as a whole and for individual jobs. The answers will be different for different types of office, whether private or public, large or small, old or new, metropolitan or provincial; but the chances are that within these variations there exists a pattern. And to find that pattern, the Council is arranging for a survey of architects' offices to be made.

Members have already collaborated most readily in other inquiries by completing postal questionnaires. Now the RIBA is coming into the field. During the next six months or so, between fifty and a hundred offices will be visited probably by two teams (certainly by one), each consisting of three people. One team is likely to be led by a principal in private practice, who will be supported by Miss Milne, the Institute's resident statistical economist, and a systems researcher from one of the principal management consultancies. It is hoped that the other team will be led by a senior local authority architect similarly supported by an economist experienced in survey work and a methods consultant.

A representative sample of offices, both public and private, will be covered, taking into account the distribution of architectural staff by region and type of office. The sample will not, however, be entirely a random one, for there will be a deliberate bias towards offices considered to be efficiently organised, offering a service satisfactory to clients, and producing architecture of a high standard (not that the three necessarily go hand in hand). The investigation will not be superficial. The offices selected will find themselves with the inevitable questionnaire to answer in advance, a visit from a survey team to disrupt routine, and no doubt much delving into drawings, job and cost records, balance sheets and so forth. Nobody wants to assemble a mass of indigestible data for its own sake, however, and a small pilot survey has therefore been made by the RIBA staff to determine which are the most relevant questions.

Clearly the success of the whole venture (which so far as we know is unique among professional institutions) will turn upon (a) the quality of the survey teams and (b) the willing help and understanding of members. The

¹ The architect, founder of his own fortune

former should be assured because, through most generous financial support from the Leverhulme Trust who have shown the keenest interest, the RIBA can afford to recruit some of the most able people available. For the latter we rely, again with the fullest confidence, upon a membership which has been quick to perceive the value of RIBA researches so far. Inevitably, one or two will see this exercise as yet another example of bureaucratic 'snooping' as pointless as it is impertinent, and nobody will attempt to coerce them. But most members (if we are to judge from the unsparing help received in the pilot survey) will recognise that the RIBA is very much in earnest about some acutely difficult problems; and that while inspired guesswork and the wisdom born of long experience are essential ingredients in arriving at the right answers, these must be bolstered by verified fact if debate at Portland Place is to avoid becoming woolly and discursive.

Later issues of the JOURNAL will carry further news about this survey.

RIBA Topics

Architecture Week

A reference to Architecture Week has already appeared in the August issue but this dealt primarily with the press coverage for the Conference. Most Allied Societies, Chapters, and Branches have now sent in reports of the activities organised by them and the use made of the poster sets produced by the Public Relations Committee. Considerable ingenuity was shown in obtaining space in which to exhibit this exhibition and in fact 40 different kinds of sites were found. In large centres where a town hall, museum, art gallery, public library or school was available the poster exhibition was generally supported by a display of local work but a number of Chapters and Branches also arranged exhibitions of the work of their members in conjunction either with the full set of posters or with sections. Some of the more unusual places found for display included motor showrooms, multiple stores, railway stations, restaurants, public houses, a bus depot, a town information office, site hoardings, a public market, street show cases, a building society window, and hoardings round a car park (one Society secured 28 sites). On occasions some difficulty was experienced in obtaining space for what was regarded primarily as an advertisement for the profession. A number of Societies arranged either for parties from schools to visit the exhibition or for copies of the posters to be circularised through the Education Officer.

The majority of Societies were able to arrange well planned opening ceremonies for their exhibitions and though local press coverage varied considerably most events were adequately reported. Some Societies arranged articles in the local press and there were three special supplements - in *The Guardian*, the *Scotsman*, and the *Western Mail*. Several regional broadcasts were arranged during the week in addition to the national programmes which took place. Other activities included special lectures, additional exhibitions arranged by the architectural departments of local authorities and by schools of architecture, a competition for architectural photographs, the inauguration of a civic society, and social evenings and parties.

There seem to be some grounds for thinking that the period of one week was too short a time in which to make an impact and several Societies kept their exhibitions on for longer.

Not least in value will be some long term results. Several schools and local societies have asked for lectures and further exhibitions, one Chapter has formed a panel of lecturers and several editors have shown an increased interest in architecture and have promised further articles.

The general opinion amongst Allied Societies seems to be that the week was well worth the effort and while it cannot of course be considered to be sufficient in itself to create interest in the work of the profession it has probably proved to be one of many suitable ways of supplementing public relations activities.

The RIBA Ball

Since the leaflet in last month's JOURNAL was sent out the Social Committee have announced further details of the RIBA Ball to be held on Friday 28 October.

The President and Lady Holford will receive from 8.30-9 p.m. The décor is being designed and carried out by BASA and special lighting equipment is kindly being lent by Messrs Atlas Lighting Ltd.

The Henry Florence Hall is being arranged as a ballroom where there will be dancing to Tim Clayton and his Orchestra, and there will be tables round the dance floor which may be reserved by anyone making a block booking of eight tickets. It is advisable to book early.

The Henry Jarvis foyer is being arranged as a 'dive' with a bar, a small dance floor, tables and a jazz band. The music will be by Eric Silk and his Southern Jazzband, with Patti Clarke, who will be well known to jazz enthusiasts. Members may remember hearing them at a recent AA Reception.

In the Henry Jarvis Hall there will be a continuous performance of Charles Eames films. There will also be an exhibition in the Library in connection with the Barry Centenary and an Architectural Quiz devised by Dr Reyner Banham in the Aston Webb Room (prize, a bottle of champagne).

Tickets are 25s. and applications should be addressed to the Secretary, RIBA, marked RIBA Ball.

Is Your Name on the Register of Architects?

There are still about 700 members of the RIBA practising in the United Kingdom who are not registered, and it appears that some of them are under the impression that membership of the Institute automatically entitles them to practise under the style of 'Chartered Architects'. They are mistaken: under the Architects Registration Acts it is an offence for any unregistered person, even if he is a Fellow, Associate or Licentiate, to practise or carry on business *under any name, style or title containing the word 'architect'*, and it is specifically provided that a 'person shall not (for the purposes of the Acts) be treated as not practising by reason only that he is in the employment of another person'.

In a recent prosecution instituted by ARCUK under the Acts, a person was fined £10 and ordered to pay 20 guineas costs, for, whilst not being registered, carrying on business under the style of 'Chartered Architect', although at the time of the offence he was an Associate of the Institute.

Practising Members are, therefore, advised in their own interests to write to the Registrar, Architects' Registration Council of the United Kingdom, 68 Portland Place, London, W1.

The ARCUK annual retention fee of £1 10s. specifically qualifies for exemption from income tax under the Finance Act 1958, S.16(1), and the Fifth Schedule.

Description of Firms of Architects and Surveyors

Inquiries are received from time to time about the proper description of firms connected with the Royal Institute of British Architects and the Royal Institution of Chartered Surveyors.

Under the Charter of the RIBA, architects may only be described as 'Chartered Architects' if they are personally entitled to that description by virtue of being a Fellow or Associate or Licentiate member of the RIBA. Under the Bye-laws of the RICS, a firm of surveyors may only be described collectively as 'Chartered Surveyors' if every principal is personally entitled to that description by virtue of Fellowship or Professional Associateship of the RICS.

It follows that the only case in which it is permissible to use the word 'Chartered' as concurrently governing the word 'Architects' and the word 'Surveyors' in the collective description of a combined firm of architects and surveyors is the comparatively rare one in which every principal in the firm is simultaneously a Chartered Architect and a Chartered Surveyor.

The following descriptions are put forward as suggestions to those firms whose principals are Chartered Architects or Chartered Surveyors, but not both:

1. Architect(s): Surveyor(s).
2. Chartered Architect(s): Surveyor(s).
3. Architect(s): Chartered Surveyor(s).

In any case of doubt as to the correct description of a firm, members are advised to consult the Secretary, RIBA.

Royal Fine Art Commission

The Queen has approved the reappointment of Mr Henry Moore, CH [Hon. A], to the Royal Fine Art Commission, Sir Hugh Casson [F] and Mr Raymond Erith, ARA [F], have been appointed additional members. Mr Arthur Floyd has been appointed in place of Sir Alan S. Quatermaine.

The Architects in Industry Group: Overseas Members

The Architects in Industry Group was established last year, and its objects and constitution were given in a note in the February JOURNAL.

We would remind members overseas, especially in countries where there is no Allied Society, that they may if they wish keep in touch with developments in the profession with particular regard to industry and commerce, by becoming members of the Group at the overseas subscription rate of 10s. 6d. per annum.

Those interested are invited to write to the Chairman of the Architects in Industry Group, Mr Stuart Bentley [F], Fort Dunlop, Erdington, Birmingham 24.

ABS: Signing the Appeal

An Appeal is in process of being sent to all UK members of the RIBA asking them to help the Architects' Benevolent Society whose vital work is restricted by lack of funds. This is a single Appeal and not an annual affair; it is consequently important to the Society—and, through it, to a number of architects and their dependants—that it shall be read and not automatically consigned to the waste paper basket.

The Honorary Treasurer had hoped to write the name of each member at the head of his letter, but this unfortunately proved impossible. He has, however, been anxious to introduce some personal element rather than have his name typed or printed at the foot; and he objects to a duplicated signature which at first sight looks real but is not.

He is therefore signing some 15,000 copies of the Appeal; and has reached a rate of a thousand in three hours. It is up to members of the RIBA to show that this effort is justified.

Sir Charles Barry Exhibition

To mark the centenary of the death of Sir Charles Barry (1795–1860) the RIBA is presenting an exhibition of original drawings from the Library collection. Amongst the exhibits will be Barry's early travel sketch books, his drawings for the Travellers' and Reform Clubs, many early studies for the Houses of Parliament as well as designs for public buildings and country houses. A volume of drawings from Barry's office collected by Octavius Barrett, brother of Elizabeth Barrett Browning, and recently presented by his descendants, will be exhibited for the first time. The Institute's collection is sufficiently extensive to show the most important aspects of Barry's most versatile career.

The exhibition will be on view in the Reception Room (1st floor, 66 Portland Place, London, W1) from 10–22 October 1960, Monday–Friday 10–7; Saturdays 10–5.

Exhibition of the Recent Work of Eero Saarinen

From 2–19 November (Monday–Friday 10–7; Saturdays 10–5) photographs of some of the recent work of Eero Saarinen will be on view on the second floor landing at the RIBA. The display has been prepared and is being presented by the United States Information Service and will probably be available for exhibition in other parts of the country if there is a demand for it.

'Formalist'

Dr Doxiadis in his Discourse on 10 March, referred to 'Formalist' architecture. This word crops up frequently during what Sir John Summerson has called 'art worry', but what does it mean exactly?

For a precise definition we went to Dr Reyner Banham, who was as good as his word; here it is:

'To speak coarsely, Formalism is any style of architecture that you can't trust; you can't accept that it received its final shape for decently valid reasons. To the Russian critics of the Socialist-Realism period, only reasons that conformed to the Zhdanov line were valid – though in practice the line was more specific about what was Out (e.g. International Modern, as generally understood) than about what was In.'

In the West, where cut-throat democracy prevails, Formalist means different things in different contexts, according to the speaker's personal views on what's valid. At one extreme, invalid views are those that the speaker doesn't hold himself, and a Formalist building is, therefore, one that he wouldn't care to put his own name to. In the middle range of opinion, invalid reasons are those that aren't covered by current dogma about function/structure/circulation/orientation, etc., and Formalist usually means any building in a style you haven't seen before. At the other, libertarian, extreme, all reasons except 'I know what I like' are valid if sincerely held, and a Formalist building is any structure whose shapes can't be accounted for by any reason that can be formulated in words.

Warning – except in Stalinist Russia, therefore, it is always impossible to tell whether or not a building is Formalist simply by looking at it. Most of the buildings that get abused for Formalism – e.g. Le Corbusier's Philips pavilion at the Brussels Expo – are not Formalist at all when you come to examine the reasons. On the other hand, all sorts of quiet little buildings, like vernacular cottages, most modern schools, housing in new towns, and so forth, are as Formalist as all-get-out, because their shapes have never really been thought about at all, just repeated from acceptable prototypes.'

The second part of the Discourse appears on page 469.

Cover Picture

In the competition for the Metropolitan Cathedral of Christ the King, Liverpool, the assessors had the task of judging 298 sets of drawings, which were subsequently on exhibition at the Ursuline Convent School, Wimbledon.

The model of Mr Frederick Gibberd's winning design shown on the cover was included in the exhibition of winning and commended designs shown at the Building Centre last month.

A competition on this scale is bound to be a test for the competition system itself. It has to be recorded that The Archbishop of Liverpool, The Most Rev. Dr Heenan said that he was delighted with the winning design.

'It is a very expensive thing to hold a competition', he said. 'It has cost us many thousands of pounds and the best way I can express myself is that we have not wasted a penny.'

'The people of Liverpool have been frustrated, first through the war, then Sir Edwin Lutyens' design had to be abandoned because of cost, then Mr Adrian Scott's design, which was an adaptation of the Lutyens' design also had to be abandoned. When they hear that this glorious Cathedral is something not for their children, but something they themselves will see, their enthusiasm will know no bounds.'

Walter Gropius Lecture Fund

A fund to commemorate the services rendered to architecture by Professor Walter Gropius (Hon. Corresponding Member, USA), RIBA Royal Gold Medallist, 1956, is being raised by the Harvard Graduate School of Design where Dr Gropius first took up the appointment of Professor of Architecture in 1937, becoming Professor Emeritus in 1952. The fund will be used to finance an annual Walter Gropius Lecture, and architects all over the world are being invited to contribute.

Members who wish to take this opportunity of honouring a pioneer, one who has devoted his life to the practice and teaching of modern architecture, will find more information on page 464.

Lectures on English Country Houses

The Society for the Protection of Ancient Buildings has arranged a series of four illustrated lectures on 'English Country Houses' to be given in the Henry Jarvis Hall at the RIBA in October and November.

Details of the lectures are given on page 464.

Less work for the small Private Offices in the second quarter of 1960

The value of new work commissioned of private architects in the second quarter of 1960 fell by one quarter from the level in the first three months of the year, but was still one fifth greater than a year earlier. Although figures for previous years have led us to expect a fall in new commissions in the second quarter, the decrease this time is greater than in 1959, possibly under the influence of the tighter credit measures introduced earlier this year.

The normal quarterly inquiry into new commissions was supplemented this time by two new inquiries—one into work cancelled or postponed during the present quarter; the other into projects entering the working drawings stage in the first six months of 1960. It is too early to publish the results in detail, but when established, both series should prove of value both to architects and to the building contractors.

Commissions for new buildings for public authorities showed a slightly greater fall over the first quarter of 1960

than did new commissions for private developers. Both, however, were above the level reached a year earlier.

The greatest proportionate fall, however, was in private housing and in new work coming to the small firms with a staff of five or fewer. Commissions for private housing were only half the level of the previous quarter and slightly below that of a year earlier. (See Table 2 and Figure 1.)

Table 2 New commissions for private architects analysed by type of building

Table 1 Estimated value of new work for which private architects were appointed

Period	1959			1960		
	£ million	%	%	£ million	%	%
First quarter	267	+41	-5	361	+34	+35
Second quarter	222	-17	-2	271	-25	+22
Third quarter	225	+1	+60			
Fourth quarter	270	+20	+42			

Type of building	1959				1960	
	First quarter	Second quarter	Third quarter	Fourth quarter	First quarter	Second quarter
New housing						
For public authorities	17	28	13	13	18	17
For private developers	77	57	68	74	108	54
	94	85	81	87	126	71
Other new buildings						
Private industrial building	46	32	30	55	54	54
Private offices and banks	21	14	15	31	20	37
Other commercial and miscellaneous buildings for private clients	63	37	41	38	54	46
Educational (public and private)	26	34	23	27	56	31
Other buildings for public authorities	17	20	35	32	51	32
Total, new commissions	267	222	225	270	361	271
For public authorities	53	65	61	61	110	72
For private developers	214	157	164	209	251	199

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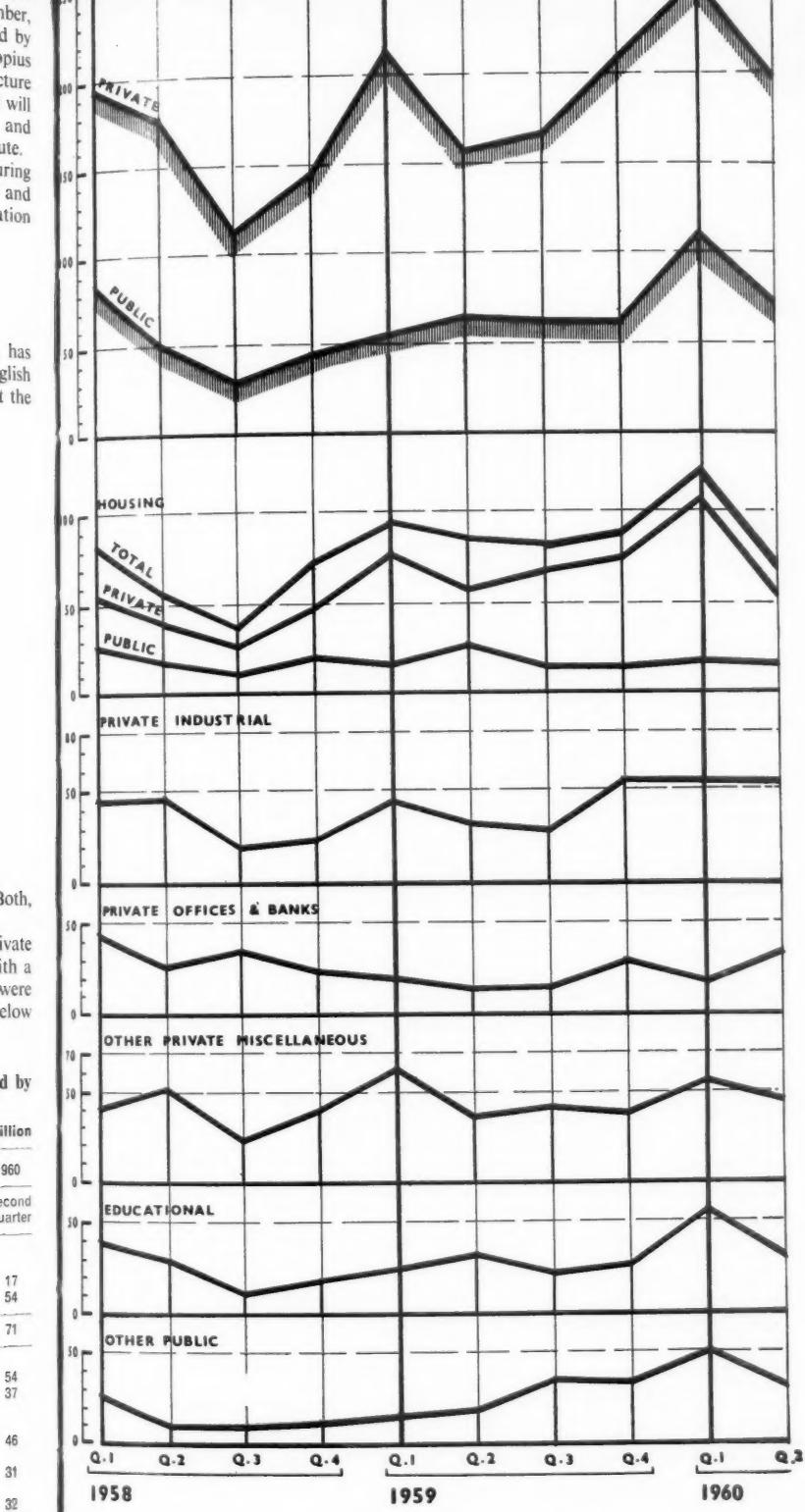


Fig. 1: New commissions for private architects analysed by type of building

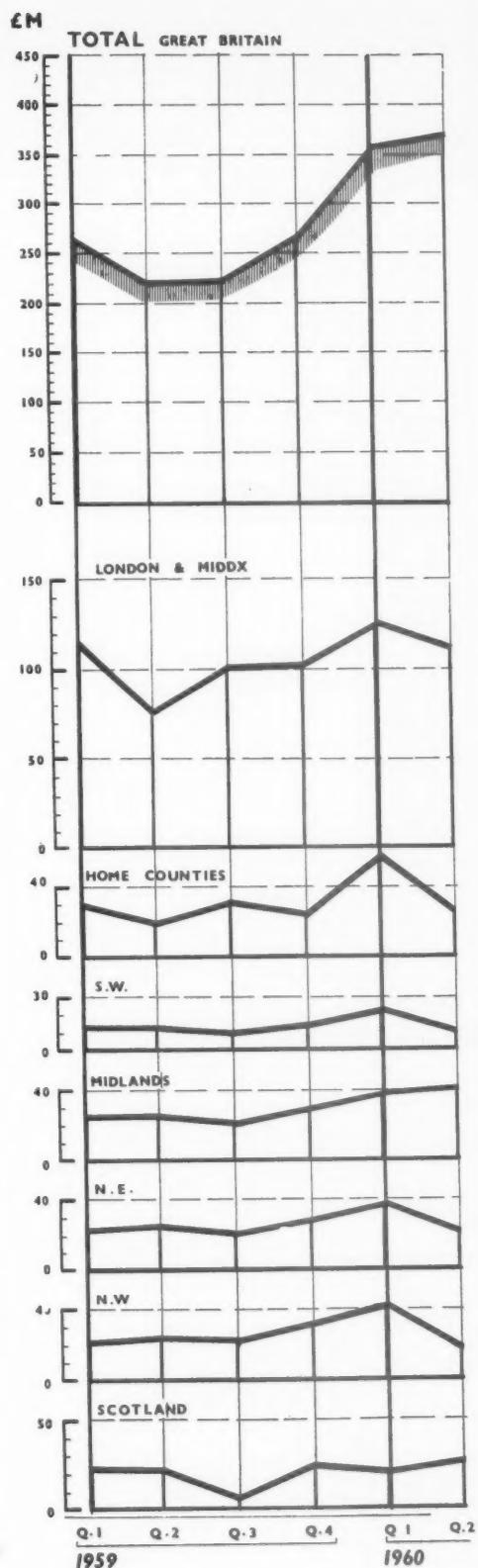


Fig. 2: Regional analysis of new commissions based on location of architects' offices

Similarly new work received by small firms employing between one and five architectural staff fell by more than a half compared with the first quarter, and it seems fair to argue a direct link between the two since so much of the work of these small firms consists of private housing.

In this size group more than a quarter of the firms replying reported projects cancelled or postponed. Indeed in value these projects, cancelled or postponed, were equivalent to one half of all the new commissions received by this 1-5 group in the second quarter. There were about equal numbers of cancellations and postponements. Housing accounted for the majority of cancellations, nearly all of which were said to be due to difficulty in obtaining the necessary finance.

As against this rather depressing picture for the small firms, the larger firms with ten or more architectural staff showed an increase of 13 per cent over the level of new commissions received in the first quarter of 1960. This increase is reflected in the rise in new work for offices and banks, which have at last begun to recover from the low levels reached in 1959, and in commissions for private industrial buildings which though they remained at the same level as in the first quarter, were two-thirds greater than a year earlier.

Of the large firms who replied, 30 per cent reported projects cancelled or postponed, but their value was equivalent to only 7 per cent of the new commissions received by this group. There were more postponements than cancellations and all types of building work were involved. Nearly one half of the projects cancelled were abandoned as a result of financial difficulties.

Taking the work of all firms in the sample, the ratio of projects cancelled or postponed to new commissions received in the second quarter, in value terms, was 1:10, with slightly more postponements than cancellations. Financial reasons accounted for only about one quarter of the value of projects cancelled or postponed; difficulties over the site and in obtaining planning permission were responsible for about one half.

Regional analysis

Figure 2 and Table 3 show how new work commissioned of private architects was distributed according to the regional location of the architect's office.

With the exception of the Midlands where a slight increase was recorded over the first quarter, the value of new commissions in the rest of England showed the normal seasonal drop from a high first quarter. Compared with a year earlier, however, the level of new commissions rose in the Midlands by half as much again, and in the London and Middlesex region and the Home Counties, by two-fifths and one-third respectively. The South Western, North Eastern and North Western regions failed to record an increase over the second quarter of 1959.

Table 3 New commissions for private architects analysed by region, based on the location of the architect's office

Region	£ million					
	1959			1960		
	First quarter	Second quarter	Third quarter	Fourth quarter	First quarter	Second quarter
London and Middlesex	117	79	102	103	128	114
Home Counties	32	21	33	26	59	28
South Western	14	14	11	15	24	11
Midland	27	27	22	31	39	41
North Eastern	24	27	22	30	38	22
North Western	23	25	23	33	42	19
Total, England	237	193	213	238	330	235
Scotland	25	23	7	26	22	28
Total, Great Britain	267	222	225	270	361	271

The value of new commissions in Scotland in the second quarter of 1960 rose by about one quarter over the level in the previous quarter and showed a similar increase over the level of a year earlier.

Projects entering the working drawings stage

At present in this new inquiry figures are available only for the first half of 1960. It is hoped, however, to build up a quarterly series along the lines similar to that for new commissions, showing for each quarter the trend in the value of work on which working drawings have been started.

This new inquiry is not intended to replace the existing one but rather to complement it. The current series on new commissions shows at a very early stage the trend in the level of demand for new buildings; the series on projects entering the working drawings stage, on the other hand, will give a firmer indication of work which is likely actually to reach the building contractor six to nine months later. The two series taken together should yield an interesting and instructive picture of the work flow in private offices.

Incidentally, this supplementary working drawings inquiry will also cover projects located outside the region of the architect's office. Preliminary estimates suggest that about one half, in value terms, of work at the working drawings stage in offices in the London and Middlesex region is located in other regions, notably the Home Counties and Midlands; whereas in other regions only a small proportion of their work is outside the regional location of the office.

Work certified by private architects

Table 4 records the estimated value of work certified by private architects. It will be seen that in 1959 this remained at the same level as in 1958; and that with the exception of 1957, the value of work certified has in fact changed little since 1955. Thus since the total value of all new building work done in Great Britain has been steadily increasing, private architects have been responsible for a slightly smaller proportion of it.

These figures do not take into account the value of work on which the architect has given only a partial service, without being responsible for the supervision and certification of the work. These partial services, which may amount to about one-fifth of the total work handled by private architects, are found mainly in the field of private housing. Much of the increase in the total value of new building work completed in 1959 was in the field of private housing, and this would not, therefore, be reflected in an increase in work certified by private architects.

Taking account of the work for which the architect gives only partial service, it would appear that from 1955 to 1957 private architects were responsible for about 40 per cent or two-fifths of all new building work completed. This proportion was slightly lower in 1958 and 1959.

Table 4 Proportion of building work certified by private architects, 1955-59

	1955	1956	1957	1958	1959
Estimated value of building work certified by private architects, excluding work for which only partial service is given (£m.)	335	380	435	350	350
Estimated total value of new building work done (£m.)	1,050	1,200	1,230	1,210	1,250
Proportion certified by private architects (%)	32%	32%	36%	29%	28%

The information given in this article has been obtained from a quarterly survey of a sample of all private architectural practices run by members of the RIBA (for further details see the JOURNAL of October 1959, page 414).

Tall Buildings in New York

Given at the RIBA on 2 June 1960 by Mr Ely Jacques Kahn, FAIA

Sir Howard Robertson, RA, Past President, in the Chair

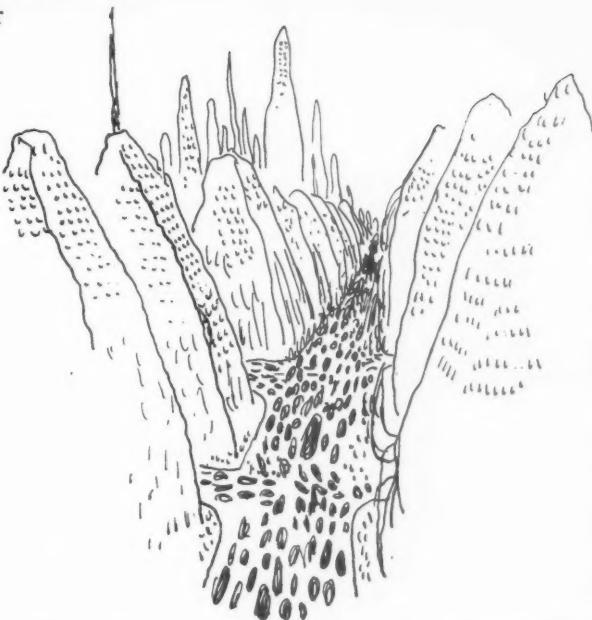
The Chairman: This lecture is organised by the RIBA and the Yerbury Foundation. I have tried to get from Mr Kahn some biographical particulars, but it is quite hopeless. He will not give them to me. In June 1957 I had the pleasure of proposing a vote of thanks to him when he gave a lecture at this Institute entitled 'American Office Practice', and at that time I also attempted to get some biographical details. When I tried to get them on this occasion I was ingeniously referred to the speech I made three years ago in order to obtain the information I wanted on Mr Kahn! So you can see my position. His lecture was well reported in the RIBA JOURNAL in September 1957, and those who are interested would doubtless like to refer back after this lecture to the previous one, because I think I am right in saying that the two tie together admirably.

Mr Kahn is a Fellow of the American Institute of Architects, and I should think he has built more big buildings than almost anybody in the United States. He has an enormous knowledge of modern architectural practice, particularly in reference to large buildings, and it is really good of him to give us some of his know-how. I only hope he will write a book about it some time, because we have no book on that phase of modern architecture. We have picture books but nothing drawn from the architect's experience of how to tackle these great jobs.

In this lecture Mr Kahn speaks of many things. He tells us that New York has no organised city plan, which is very comforting because we have no organised city plan either! He tells us of the transport problems, and we have a transport problem which is worse than his. He says that small buildings are not normally built in the United States now, and building seems to be going that way in this country. He talks about replanning, the total acceptance of air conditioning and many other things. He mentions one phase in comparative austerity of the embellishments of modern buildings in New York, and I think that goes for all over the country – austerity in the sense that the structure and cladding tell a story but the artist externally is rather out. He speaks also of problems of designing airways terminal buildings, and very few of us here have had experience of that. Probably he will give us a warning!

Mr Kahn has been very kind to those who have visited him in New York with a view to seeking his advice and tapping his knowledge of big buildings. He is always very helpful, and I think we should be very pleased that he has come here to give us some of his store of vast knowledge and experience.

Mr Ely Kahn: I am very appreciative of being asked on a second occasion to speak in this honoured hall and I will take the opportunity to tell you something of the problems that an American architect faces, rather particularly in one city and even to a special degree, with work that deals with the tall buildings that mark our skyline. You will forgive me if, in my concentration on the producing of these blocks, I say relatively little of their artistic virtues; I am quite aware that questions of taste are extremely personal so that, as I present information to you, you and the many critics will, correctly, have opinions as to their actual artistic accomplishments. Whatever their values they exist, we live and work in them, we see them constantly and finally they must be judged from the level of the demands and our abilities to create fine buildings that function satisfactorily. Our problems are undoubtedly different from yours, in that we deal with economic criteria that are peculiar to our country. We have little of an historic background to guide us, or as a matter of fact, restrict us, which may or not be an asset.



The practice of architecture in New York varies markedly from that of other parts of our country, due in large measure to the prestige of a very active commercial centre where the volume of building is commensurate with the scale of activity of an extremely busy area. Business interests are drawn to the focal point from all sections of our country, and beyond. We have a financial core that expands and demands accommodation to match its volume.

Actually what is the result of this pressure in building? First may I comment very briefly on our geography. New York consists of five boroughs; one of them comprises the Island of Manhattan and here are the administrative offices and the location of the original settlement which has given way to the construction surge of later years. The island originally had a pleasant landscape of rocky hills, rambling streams and jagged shore lines. The flattening process of time rolled out streets and avenues, straightened the river's edges and grew in a beautifully haphazard fashion from a small trading village with crooked streets to the checkerboard of today. There was little or no planning, for the city spread on as it grew; the streams were tucked underground and still run there to our discomfort when investigations reveal how valleys were filled in and grades levelled, so that sites for new buildings and new streets could be determined. We have had our difficulties with quicksand, underground pools, crumbly rock and river front sites that proved eventually to have been filled in parts of the rivers; when test borings revealed boats sunk many years before under what appeared to be solid land, we knew that a foundation problem was in our hands. Here, actually we had to sink open caissons to bed rock before we could begin to support a tall structure.

The lack of any organised city plans is understandable, for New York, in particular, grew slowly while cities like Boston and Philadelphia, early in our history, were important and had the benefit of the best talents available at the time. The only American city that really produced a germ of a city plan was Washington, where the French engineer Major L'Enfant laid out monumental avenues and vistas that distinguish our capital at this moment.

The casual growth of our city was not too serious while transportation consisted of amiable horse cars, and no one

dreamed of tall buildings packed together on narrow streets. While the original settlement grew up to the city's protection walls and then beyond, all was well. It became a different matter when the walls came down. The canals that served the colonists were filled and the explosion of growth got under way.

We have an amazingly dramatic skyline today. The clustering of towers concentrate in specific sections for reasons that have nothing to do with aesthetics and is due simply to economic demands that bring certain industries together irrespective of costs, comfort or crowding. You would find, if you were curious, how certain business groups gather in hordes and fight vigorously to remain in a specific area, while a short distance away land is available at a far more reasonable price. It is important apparently to be fashionable and to pay the increment for being very close to one's competitors.

The lack of serious long range planning becomes increasingly evident when we visualise the swarm of automobiles that line our streets and know only too well how difficult it is to travel about by vehicle. It is no jest that far often the pedestrian can move faster than the high powered car.

There have been various suggestions that have not been accepted as practical. One is the prevention of cars entering the city proper from the suburbs, in which the bulk of our working population lives. Presumably, workers would reach the nerve ends of buses and subways and move on to their destinations as best they can; knowing the traffic on our existing transport lines this is not an appealing thought. We have two major railroad terminals in mid-Manhattan and you may have read of the proposed structure to be erected adjoining one of them. The added mass of people to be joined to an already crowded spot can only exaggerate an existing difficulty.

Another recommendation has been that of building a chain of parking garages that could serve shopping and other busy parts of the city. Realising that one of our recent improvements has been the completion of broad parkways lining our river fronts and that they bring a solid ribbon of traffic to the city, it must appear that sooner or later some sensible solution will have to be found. Our cars also were constantly increasing in dimensions, which did not add to our welfare. The sudden revision of car sizes is of small comfort for we have a constantly increasing population and the manufacturing industry is not trying too seriously to reduce its volume.

The big buildings are, in essence, our characteristic features. For better or worse they dominate our city and we should at least understand something of their faults and virtues. Having been involved for some time past with their production, I was intrigued by a question put to me recently, as to wherein the work now being done does vary from that of a generation ago.

In the light of centuries of building in Europe, such a question might seem to be ludicrous but actually there have been major changes and it would be interesting to chart some of the features of this evolution.

The small building is no longer the normal product of our time. Our city and many others were plagued by a hodge-podge of nondescript structures that elbowed each other to create a beautiful confusion. They were of all sizes and design. This was obvious where the individual could do whatever he wanted, with or without professional guidance. These small structures not only fought with each other for attention but each required its own individual services and administration. Clearly, on the same site where a dozen small buildings tried to justify their existence, one large block could offer one service package and one control, all of which suggested economies and more vitally an opportunity for a more noble design.

Recent years have evidenced the logic of this approach. You would discover on our major streets and avenues that the larger blocks do dominate and moreover have permitted their designers to conceive of more distinguished masses. Our zoning laws establish height limits in various sections which imply a maximum beyond which set backs are required.

These breaks, while excellent on the theory that the streets enjoy better light when the buildings recede as they rise, do create unpleasant steps on the upper levels. When many buildings on a building block have these curious forms some unpleasant results develop. The street façade may be reasonably agreeable but the side elevations showing the chopped off upper reaches are not pleasant. When the full block is possible, the problem is far different. The larger building permits a satisfactory balanced composition and moreover in a large building all of the permissible floor areas, of approximately 80,000 square feet, are not necessarily used. The tower privileges of the zoning law permit also that 25 per cent of the ground area can rise to any dimension and this advantage is useful, mainly in large plots. The result can now be seen in recent work like the Seagram Tower where from the outset it was decided to leave part of the ground above grade to be dedicated to an attractive approach. The tower rises directly from a broad platform facing an avenue. A similar arrangement as to the tower appears in the large block adjoining Seagram's in that we were able to leave substantial space clear at the street level and by reason of the size of the site, produce adequate usable space for the bank, which will use the building, without recourse to the boxlike accretions that would have been acceptable under the law.

You might forget that not too long ago the large blocks were frowned upon when it was deemed necessary to have usable space not much further than 20 feet from a window. We now know that, certainly in our experience, organisations of size ask for large floor areas. Vertical connections are costly as to time and administrative control. Considerations as to light are not of serious moment when it is evident that high intensity illumination is an accepted practice. There are psychological reasons for permitting glimpses of the sky and the city beyond and partly for that reason the tendency in modern office buildings is to avoid floor to ceiling walls or partitions except in such areas where the very upper echelons demand noble seclusion. The question of light in the deeper blocks is very simply answered, for illumination units are flashed on and burn all day irrespective of sunlight, gloom or bright skies. It sounds somewhat ludicrous and extravagant to see lights blazing on a clear day, but there is logic also in providing a constant level of light that ignores weather of any variety.

One quite recent development is the emphasis on modular planning where careful advance study determines the size of all of the units that produce a finished building. It is evident that a large proportion of floor, wall and ceiling materials will not be custom made or the final costs would be considerably higher than would be deemed normal. The early analysis considers such spacing of structural supports and windows so that divisions of areas can be produced that appear to be acceptable to prospective users. For example, whatever the ultimate destiny of the structure, there will be a demand for certain minimum room or space divisions. If the plan forces the occupant to exceed such a dimension, someone will suffer. Acoustical ceiling panels are available in certain known sizes, as are standard lighting units. A studied plan will require the minimum of variation from established sizes. Quite the same theory pertains to excellent metal and glass or wood partitions wherein the designer finds a wide choice as to colour finish and detail.

I trust that my emphasis on these mundane details will not appear to you to be too violently practical, but I can only note that the successful building must, if the miracle can be accomplished, be beautiful and also indicate that the designer is aware of hard facts as to costs, maintenance and the responsibilities of an owner to venture into a project that can make him happy or very miserable.

A further note of today is the total acceptance of air conditioning. We have ranges of temperature from arctic to tropical variety and as we have accepted universal illumination of high standard so have we assumed year-round ventilation

and cooling. I am sure that some of our accepted premises may appear to indicate wasteful extravagances but I must remind you that the final economics of cost and return is what determines the validity of decisions. These are not ours necessarily, for we become tools in a wide enterprise.

In the air conditioned buildings of size, some curious things happen. When the sun is vigorous on the south side, the cooling effect may well be demanded. On the north side at the same moment, the occupants may demand heat and they will get it. The air conditioning system does other things to our buildings beyond making them comfortable in any weather. The apparatus required mechanical equipment, compressors, fans and cooling towers. Water as a basic ingredient in changes of its temperature, becomes a transmission element. The water during the process develops considerable heat and up to a few years ago was simply discharged to the sewers. When the water capacity of the city itself became endangered through the countless air conditioning units, this waste was stopped by legislation and cooling towers were required in which the heated water could be pumped, cooled by air currents and recirculated.

All of this equipment, including the cooling towers, takes space and the logical area was at the top of the structure for a bulky and not too handsome a mass. You may recall the pictures of the well-known skyscrapers of New York, such as the Woolworth, Chrysler and the Empire State, that showed elaborate finials, complicated roof decorations, spikes and pyramids, all of which added mightily to the sparkle of these monuments against our blue skies. You will look now at our recent tall structures, such as Seagram's, the National City, Lever Bros., the Chase Bank, to mention a few, and notice totally flat roofs with no finials of any nature. These roof displays were interesting to be sure, and gave these buildings much character; now with the truncated mass, the body of the structure itself must offer some interest and, in a strange reversal, you will find more attention now being paid to what you see at street level: planting, reflecting pools, imposing entrances and the use of the finest of materials.

You would have seen, 20 years ago, that some of our avenues were lined with stately stone clad structures that may not have caused you to gasp at their beauty but at least would have impressed you with their stability and dignity. They were of an ancient vintage, details from Italian or French originals, quite well done as to execution but far from a solution of the design of tall buildings. There are still plenty of them in the city that tried, earnestly, to marry the charm of the Renaissance palaces with the dimensions of massive buildings. The contemporary version has finally dropped all and every vestige of archaeological inspiration. This had not been quite as sudden a break as I have suggested for the history of the tall building did not originate in New York but had its roots in Chicago over 60 years ago. The demand for unusual buildings brought about experiments in structure as well as design. Important figures appeared, such as Louis Sullivan who showed no suspicions of having been aware of European architecture. Frank Lloyd Wright designed one of the early office buildings in 1890 in Buffalo, indicating in his early years a complete break from the Renaissance influences then current among most of our distinguished practitioners.

The skeleton structure was an accepted fact whether it was of steel, iron or reinforced concrete but the facing was another matter. The earlier buildings retained their heavy stone walls due partly to local codes and also that the new materials (such as aluminium) we now have in abundance were not available. A break in tradition was under way and it took some time and many experiments to approach acceptable ideas as to how the new buildings should appear. The thin wall was to come, eliminating heavy structure that increased loads on the skeleton, greater distribution of glass opening and the possibilities of fresh design.

If now you were to glance at the avenue where the stone masses once stood, you would see acres of glass and metal.

There is no question but that a vital change has taken place and that a transition in style is in the process of developing. You may not like all of these glassy boxes for, unfortunately, some do look as though they were slapped together with more attention to speed than beauty. There are, however, excellent examples of design and perfection of detail; Lever Bros.' building is one of the better monuments of the day. One word of caution at this moment notes that in the urge to produce these sharply clean metal clad structures with cantilever frames and far from normal structural designs, the costs rise in proportion to the designers insistence on producing something dramatic and original. So often it might appear to the casual observer that the builders are indifferent to high costs and permit extravagances that must be out of line with any possible concept of rational investment in land and building. You might find this to be the case in structures built by an organisation mainly for its own use where the eye appeal and attendant publicity warrants expenditures of an unusual variety. Rest assured, however, that in the bulk of these tall buildings a most careful analysis develops at the outset, the study of reasonable area to be developed, a complete breakdown of costs, potential income, type of construction and a study of as many details that could influence final decisions as may be possible before work actually does begin. I am aware of one project of size that we are about to undertake. The structural and mechanical engineers have been chosen by us and the analyses referred to above are under way, all of this long before any precise plans are developed. The preliminary schemes are sufficient to indicate basic ideas and before we embark on the preparation of a costly and complicated set of drawings, everyone involved will know fairly clearly what the eventual project will be. There should be few surprises and little guesswork.

In discussing the thin wall designs, may I again note the temperature variations that in one day could vary over 30 degrees. It is important that our buildings be kept dry and to ensure that no moisture appears on the interior in any weather, unusual precautions are taken.

Based on our experience, drawings of wall sections are prepared after a basic design is reasonably established. These preliminary studies are discussed with the builders who likewise have had knowledge of what could develop with a faulty detail. A wooden full-size model was put together to see how the various parts could readily be assembled and from this small affair an actual model of a full bay was produced using the materials destined to go into the final building. Finally the working model was subjected to the most rigid wind and rain laboratory tests.

The experiment not only told us that the skin would hold, and not cause problems in erection on a very tall building, but that there would be little possibility of condensation on the inner face of the wall when the outer temperatures could be zero and the interior 70 degrees. While we are on the subject of the glass wall, you understand that the modern building actually has no windows, at least not windows that open, for we are told by our engineering consultants that the only way they can really control the air in the whole structure is to cool or heat as may be desired, but not to permit open windows to interfere. In this avoidance of window opening you and countless others may wonder why an individual cannot, if he so chooses, open his window at will. Some prefer cold rooms to be the established norm of the building. There are regulating valves for this purpose, but on the whole the entire structure is controlled from one source. This avoidance of window opening brings, naturally, the question of how to clean so much glass. You will see on the top of the great blocks that machines are installed on a variety of railroad trackage that suspend platforms for men to work in safety at any level, these platforms moving about the perimeter as desired.

While we are referring to basic changes in our buildings in one short generation, may I bring up one very major consideration. Not too long ago our lives as architects were

reasonably quiet when we were producing simple structures for shelter, irrespective of their size. We now are most thoroughly aware that the mechanical features, apart from the air conditioning to which I have referred, are serious matters. The modern structure with its telephone systems and other mechanical features, and most particularly electronic devices, is no child's play. In one particular structure we are planning, beyond the building proper, the disposition of every bit of equipment including furniture in floor areas comprising over 1,200,000 square feet. The handling of mail for one detail is impressive for you can suspect that when once the huge mass of material comes from the post office it must be sorted and distributed to some thousands of people, and in short order. We have conveyors, tube systems and special elevators. There are also a multitude of electronic machines that perform the miraculous functions of memory, and mathematical operations that are beyond the scope of my talk to you. We have, however, been called on to provide one unusual structural arrangement and that comprises a separate floor above the usual concrete floor arch. Aluminium posts carry removable panels of aluminium covered with flooring material giving clear open raceways of some seven inches in height in which wires and cables can be run at will. These overlapping electric services not only could not be installed in the floor arch but with constant development in new equipment these raceways must be capable of serving whatever may next appear. You would be fascinated to see the variety and size of the machines that handle cheques, accounts and records. One of the particular reasons for this double floor and the elaborate provisions for the future is that even now with the building well under way, the final decisions as to the ultimate electronic brain is still under discussion.

A still further feature of our present thinking in our architecture is a curious one of negation. You will find very little ornament, in fact the sterility of so many of our big buildings would lead you to think that the craftsmen of a generation past are no longer functioning. Actually we are in the throes of a style complex where our architectural journals love to show the most radical of modern efforts and scorn anything that might resemble in the slightest degree work that a generation past was welcomed by them. One has no quarrel with that theory, but unfortunately those who are not capable of judging for themselves are inclined to follow blindly in a direction that they believe will guide them to beauty.

In this taboo of decoration you will also note that the incorporation of sculpture and painting as part of the original design is no longer fashionable. You may recall that the Rockefeller Centre built about thirty years ago had sculpture and painting galore. Today buildings either are swept clean or have indifferent works in some second-rate structure that mean very little to the public or the artist. Part of this hesitation in welcoming the artist is no doubt due to the uncertainty in people's minds as to what contemporary art actually is. The variety of opinions is no doubt healthy and necessary, but there is equal certainty that so much now being paraded before us is destined to be tossed aside as trivial; many prefer austerity rather than accept things that could easily be caricatures in another generation.

We have no control of design in our city; as long as the buildings conform to the standards of safety, we can perpetrate whatever we choose. The check reins are there nevertheless. Most of our large structures depend on financing, and further, the groups that instigate these operations are usually individuals who are cautious as to public reaction and, what is more important, aware that the loan officials must have some basis of acceptance. It must not be assumed that bankers or even the clients are impediments to good designs. The architect is really the key man provided that he is capable of handling these many facets of building design with courage and stamina to carry through the big project to a successful and attractive completion.

I spoke before of a style in transition. I believe that this is true for a period reacts to the peculiar structural, mechanical

and aesthetic characteristics of its day. It would not appear to be conceivable that we would, *en masse*, take up Greek, Gothic or Renaissance inspiration as did our predecessors of a century ago.

Certainly, in our city, we have very little physical ancestry and any reversion to historical stage setting would be difficult to imagine. The acres of glass and metal may not be the final glory, but there is a realisation that a great deal of work is proceeding. History tells us that in any epoch, a few works of art remain and the bulk of second-rate things go by the wayside. You may smile at my remark, for some of these huge buildings will be here for a while to come and all we can hope for is that the average is not too bad and the good ones prove to be really good.

When I spoke of austerity and the present trend of design to break away from any semblance of tradition we have, naturally, counter revolutions. These are not in any degree references to the past but presumably expressions of individual tastes. You will have seen pictures of the Le Corbusier Chapel where he amused himself by freezing clay modellers' forms into a building that makes no pretence of being other than a personal statement which you can accept or reject as you choose. There have been many other expressions of free wheeling design where in the anxiety to escape from any shackles the designers were able to let their imaginations soar to high levels. We have the screen wall idea, beautifully executed in Delhi by an American architect but which has already spread over our country to the extent that any type of structure, for any use, can be closed in beyond some variety of screen, metal, terra cotta or stone. This curtain, for so it is, in the hands of a talented designer, as in Delhi, can be fascinating but when it can be marketed like so much tooth paste an interesting question of doubt arises.

We have in New York today the Museum building designed by Frank Lloyd Wright. There is an interesting contrast between the scientifically planned office structures I have mentioned and this Museum. They start, to be sure, from widely separated requirements, but in the final essence all have certain basic responsibilities to the public, the client and more particularly to the contents of each of them. Wright, in a particular moment of a great career, was enamoured with circular shapes. The building is exciting, dramatic and completely foreign to any preconceived notion of what a museum should be. The great circular masses pile up to a great hall that is lined with spiral ramps on which the paintings are displayed. There have been many comments violently for and equally bitterly opposed to its acceptance as a fine building. What is generally agreed upon is that Wright produced a structure that he wanted to see in our city and one that was completely and thoroughly foreign to its environment. It is not well built, that is to say, a concrete block with curved surfaces implies forms into which the material must be poured to harden. The surfacing of the concrete is a type of plastic paint which after but a few months shows signs of wear. The building undoubtedly will be celebrated as one of the last works of a great master but it is doubtful that his theory of exhibiting works of art will create a sensation. Here, without doubt, we have the apotheosis of an individual's idea, free to design and erect what he wanted to do. Wrights do not happen very often and one admires the creations of a truly great person who could, at a serene age, crash through with a building that will be a focal point for years to come. There was no fumbling here. Wright did what he wanted and you accept it or not as you see fit. The office building, by sharp contrast, may be far less glamorous but must function precisely and fulfil requirements of an exacting nature. There can be little play with plastic forms or exotic dreams, all of which sounds violently practical and unromantic. However, our lives would be dull indeed if we did not have a Wright alive, or his memory active to keep us from being too rigid or self-satisfied at any stage of our work. Fortunately, those of us who were friends of Wright and respected his ideals knew also that he

was unique in his way, completely fearless, an individual who dared, who lived through turmoil, frustration and great glory.

There is another phase of our work in New York that, while quite foreign to the tall buildings, does resemble it in a horizontal aspect, for I refer to great structures recently opened in the new airport for New York City. In these designs, strangely enough, we had analogous problems of a mechanical nature, requirements as to handling of people, their comfort and the disposition of a horde of details that had to be considered most carefully, for here, of course, we were dealing with commercial airlines that required public approval and actual support in the most cold business fashion. The airport itself is within comfortable riding distance from the City proper. The basic scheme comprises one very large central structure which contains administration and accommodations for arrival and departure for the many airlines that serve here. From the central and administrative mass, a great circle spreads on the area devoted to passenger service as contrasted to the field area to the reverse side of the centre building where the runways are located. Six major domestic companies were allocated space for their own terminal centres and these buildings are grouped on this circle and fed by a system of roads that permit access to and from the main administration centre. One of our tasks was the design of the American Airlines terminal on this circle. The particular requirement was to handle large numbers of people, and avoid confusion between arrivals and departures. The problem was, in the first instance, to produce a satisfactory area where these two functions could be separated. The reception hall for departments had to be of sufficient size and interest to serve all of the demands for people waiting for information as to time factors and all of the multitude of services that a very busy air terminal can develop. The ground area devoted to this particular company was naturally restricted, as were those of the other lines.

The requirements of today as to jet planes and the space required to manoeuvre them satisfactorily, developed a plan that can handle 16 large planes at one time. The flight departure rooms or gates are separated but connected to long fingers extending to the field and to which the planes are brought for arrivals or departures.

Considerable study was devoted to the problems of handling baggage to the plane and away from it. One realises that an unhappy passenger is no asset, and no matter how efficient a system may have been devised it will take time to ascertain if the solution is thoroughly good.

The building is now in use and apparently is functioning. The staff that began the studies quite a few years ago remain at their tasks, for with the fast development of entirely new ideas as to planes and their service possibilities, we know full well that changes will develop and as quickly as they do the new work involved must proceed at the same speed.

You may not be aware that the site at Idlewild was originally a swamp adjoining the harbour. The surface was part sand, part muck, with water a short distance below. The foundations were complicated, for to permit of great runways, heavy buildings and the impact of large planes at considerable speed, sand had to be compacted and piles driven capable of supporting substantial loads.

Beyond the first circle of the terminal buildings is a second great circle on which the maintenance structures are located. For the American Airlines we planned a structure that is 750 ft. in length and 350 ft. in width. The plan is interesting in that we have, in the centre of the block, a three-storey affair 75 by 750 in which are housed all of the service demands of any nature. You realise that supplies of any conceivable variety must be available, from chewing gum to motors. First aid stations, sleeping quarters for pilots, stewardesses and other employees are needed. When a plane has to be repaired, whatever the extent of the damage or requirements, here presumably is the storehouse and the staff to do the work promptly and efficiently. Time represents success or failure and delay of any nature is costly.

The core structure has on its two sides the hangar features. From the centre building there are cantilevered wings that extend 140 ft. out beyond the core on either side and running the full length of 750 ft. The sides facing the runways have motor controlled doors, 40 ft. in height, so that the full length is open for planes to be brought in for inspection. To avoid delay in working on planes in cold weather, these floors are heated by having had copper pipes with circulating hot water imbedded in the concrete slabs. It was also decided that there was some risk of a plane brought into the hangar, to explode or burn through some accident. Such an explosion might cause collapse of the cantilever truss above the plane. The construction therefore was so arranged that in the event of such a calamity that particular wreck would not in turn damage the core structure, which supported the cantilever. You understand, of course, that the mechanical features of the building proper included every variety of fire protection, ventilation, under soil provision for gasoline, fuel oil, drainage, plumbing, etc.

I have emphasised the practical features at some length. You would not realise, however, in my condensed paragraphs, how much time was actually spent in creating a successful composition, not only as to mass but also to details of colour, lettering and every part of a big building.

I did not speak of the fact that the airport authority itself was a most severe critic of plan, building mass and detail. Quite naturally so, for the entire scheme of a great port had to conform to a basic programme with very definite control for safety, for appearance and the handling of traffic of any nature, planes, cars, trucks, people.

I have tried to present to you some brief notes of some of the tasks that come to us in the life of architects in New York City. I admit frankly that I have concentrated on architectural matters that have interested me particularly and you will hear nothing about residential work. Actually, one does, eventually, the variety of jobs for which he feels he is best fitted and *although* I have enjoyed the opportunity of designing various other type of buildings, the fascination of these intricate larger tasks is there, and I have been fortunate to be involved in them.

So often the suggestion occurs to me, that an architect who becomes concerned with so much of this detail becomes, possibly, less of an architect and more of an organiser. This would imply that the individual is less of an artist because of the pressure of modern requirements. With this I cannot agree. The masters of yesterday had problems commensurate with the equipment they had to use. The architects of Egypt, of Rome, of Ancient Greece, performed astounding things with practically nothing to help them beyond brawn and courage, plus their own positive talents.

It is my belief that, faced with today's problems, good architecture can develop through intelligent use of our enormously increased potentialities. The architects of the past, those who built the cathedrals, the bridges, the great palaces, would have been capable, I am sure, of using the new tools to produce new masterpieces, had the opportunities come to them.

Our danger is in ignoring the rapid development of our own day as to materials, demands and technical processes. Above all, we must avoid copying the platitudes of work we see about us, creations that seem to be fashionable or sensational. It is so much easier to follow a trend, and that is possibly why so much that is being done today has the stamp of looking as though it were being prepared for demolition tomorrow. If we are in the era of the curtain wall versus masonry, let us realise the advantages and disadvantages of the one against the other. Modern architecture is the summation of contemporary problems plus the use of modern tools and materials. The end result may not be world shaking but it certainly typifies the kind of people we are and the level of artistic and cultural development that we have reached.

(*Mr Kahn then showed a number of slides of buildings in New York.*)

Discussion

In the discussion Mr Kahn was asked whether he could give an idea of the floor space index in the modern buildings. He replied that usually some 15 per cent of the space was not used. With the small building the wasted space was far greater in proportion. With a small area the non-useable space could amount to 30 per cent. The larger buildings give a better economic use of land.

In reply to another question, Mr Kahn said that the law required the provision of staircases of a certain width and number of stairs at the tops of buildings. In the case of fire, the occupants walked out through an open court to the staircase.

Dealing with the ratio of floor space to the amount of ground area, Mr Kahn stated that a new law was about to be introduced in New York in which the demand may be ten times the ground area. Of course, with the big plot there is an advantage whereas with the small plot it is cut down. Asked how the question of elevator demand in a building was worked out, the author said that a calculation was made that there would be so many elevators to, say, 35,000 square feet of space. Having made that calculation, the elevator engineers were called in to check back on that calculation. After that, the elevator company were called in and they checked back on the elevator engineers, and the consensus of opinion finally determined the elevator position.

Another question put to Mr Kahn was whether in the early stages of design he found that the structure determined the architecture, or whether the structure came in after the architecture had been determined. Mr Kahn said that the designs with which he had been dealing happened to be in the heart of New York, where the problems were exciting because of the amount of space. The structural engineers were called in promptly at the beginning and went into the question of the tonnage of steel required, the cost and delivery of steel and all other relevant factors. At the same time, the mechanical engineers, the owners of the building and the people who were to run it met together and discussed questions of design, cost of material, size of offices, and so forth. All that was done in advance of any final plans. Mr Kahn added that about one year would elapse from the time the discussions started until the plans were turned over, but by then the plans were complete and everything was on them.

It would appear, commented another speaker, that in the United States far greater use was made of specialist consultants, apart from specialist firms, than was the case in this country, and it would be interesting to learn from Mr Kahn whether such people were able to provide the necessary information soon enough. The amount of mechanical information available to the architect in this country was very sketchy.

Mr Kahn, in reply, said that the same group had been working together for many years in New York with the result that the members knew each other quite well. When the group was assembled, which took a very short time, all the processes were investigated. In that way it was more likely that a good building would be pro-

duced. The health of a building was a good plan. When a new project came along there was a tendency to talk about a brilliant concept and design, but it was necessary to wait for the plan. 'When people talk about design and forget the fact that the plan is most important, I get annoyed', he added.

The Chairman asked what view the planning authorities in New York took of congestion in the streets if the plot ratio was as high as twelve to one. Mr Kahn replied that under the new law a basis of ten to one was being recommended, and there was a fierce argument raging on the theory that it hurt the small property owner. It was, he added, difficult to answer the logic of New York.

VOTE OF THANKS

Mr W. V. R. Cross, MIMech.E, MIHVE: The Yerbury Foundation is fortunate to have Mr Ely Kahn with us this evening to give us his most interesting paper.

Mr Kahn has given us a survey of the factors which are changing the nature of the large buildings now under construction in America. I have recently enjoyed a mind-broadening and exhilarating visit to his country, and although I cannot comment on the architectural aspects of these factors, I must say that I found many of these buildings exciting to look at and comfortable to live in.

I went to learn something from Mr Kahn's countrymen about the mechanical services for these large new buildings. I was therefore particularly interested to hear Mr Kahn confirm my impression that an architect designing almost any building would take it for granted that the occupants should be able completely to ignore the outside weather.

I believe we have something to learn from this attitude. The American climate is varied and extreme and it must be artificially tamed. Our own climate is bearable but only just. Many of us here will remember, as I most vividly do, being permanently cold every winter of our school days. There was little to choose between the chilliness of school or home. We became more sensible, if not wiser, and demanded warm places in which to work. Not so long ago we were content with a heating system that gave us 60° F in our office. We now demand to be warm at home as well as at work and expect 65° F to 68° F almost everywhere. We are in fact catching up with the Americans and much of the rest of the world.

But we are reluctant to admit the defects of natural ventilation. If you live in a sheltered place in the country, natural ventilation may be satisfactory; but if you live or work in a big city and particularly in a tall building, its defects soon become manifest.

Perhaps Mr Kahn would agree that natural ventilation, even with good window design, is virtually uncontrollable. This uncontrollability often upsets the performance of the heating installation. Tall buildings, which are new to us in this country, are subject on their upper floors to high and varying wind pressures. Our present experience suggests that natural ventilation will seldom give complete satisfaction. On the lower floors open windows admit traffic noise and on all floors atmospheric dirt. If we do not go the whole way

with Mr Kahn, I am sure we should consider effective mechanical ventilation for winter operation as a very desirable standard for large city buildings. If we do so windows can be kept closed except during hot summer weather.

But if we go the whole hog, seal the building and provide full air conditioning with mechanical cooling, as Mr Kahn does, are we being extravagant? Here are some rough costs that I think would apply to an office building of 100,000 square feet in this country. The all-in annual cost to the building owner, that is, the annual cost arising from capital expenditure plus fuel and maintenance, would be roughly these:

Space heating: 1s. per sq. ft. per year.
Space heating with mechanical ventilation for winter use: 1s. 9d. per sq. ft. per year.

Full air conditioning for round-the-year use: 3s. 6d. per sq. ft. per year.

Full air conditioning therefore costs about 2s. 6d. per square foot per year more than the present accepted standard of heating. In an office building staff salaries can be related to floor area and probably cost about £10 per square foot per year. If we assume that there are, on average, 12 days each summer when a naturally ventilated building becomes uncomfortable enough to reduce the staff's effectiveness by 25 per cent the extra cost of the air conditioning will have been covered. Half a crown in 200 shillings is 1½ per cent. It does not need many uncomfortable days with much loss of staff effectiveness before the extra cost of the air conditioning will have been paid for. So what Mr Kahn has been advocating as an essential in his country may not be such a luxury in our own country.

We do thank you, Sir, most sincerely for speaking to us this evening and for giving us such an interesting survey of developments in your country.

Mr Thomas Mitchell, MBE [A]: It is very appropriate, in view of Mr Kahn's insistence on what he calls the mundane details of design, and his stress on the many engineering problems which have to be integrated and weighed one against the other in the design of large modern buildings, that a leading mechanical services engineer should have been asked to propose the vote of thanks. I am very pleased, on behalf of the Royal Institute, to support his proposal, more particularly since Mr Cross is an old and valued friend.

I must start by congratulating Mr Kahn on the deceptive simplicity of his paper, the sort of simplicity which is not at all easy to achieve and which can only flow from a clear analytical mind thoroughly conversant with its subject. It is engagingly honest and modest.

He makes it plain that he speaks of New York and of his own experience there, and warns us that conditions are not the same as here, a salutary warning, since architecture here has often suffered from too literal borrowing of ideas from countries with economic, social and climatic conditions very different from our own. Many of the problems he has discussed, however, are of very current concern here, albeit generally on a smaller scale.

I am honoured and pleased to second this vote of thanks to Mr Kahn.

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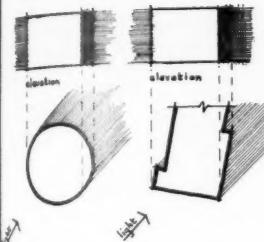
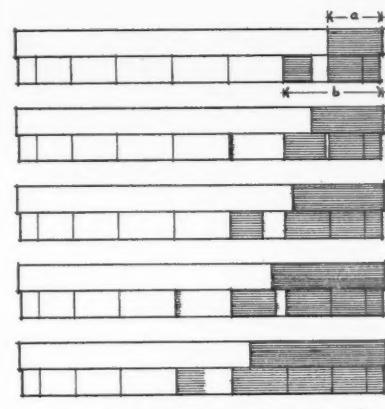


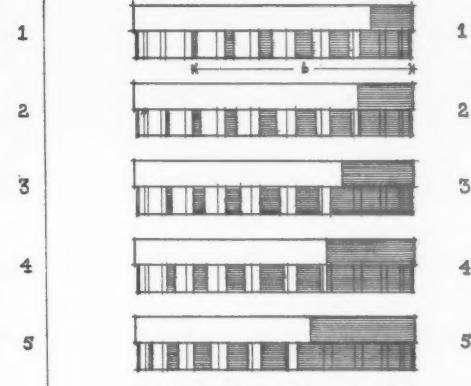
Fig. a
SIMILARITY OF SHADOW EFFECTS ON
UNFLUTED COLUMN AND SQUARE ANTA -
ABRUPT TRANSITION FROM LIGHT TO SHADE

SLICING NO.	ANGLE OF LIGHT	G:1:b DORIC	G:1:b IONIC
1	45°	1.72	5.19
2	37.5°	2.15	4.45
3	30°	2.49	3.99
4	23.5°	2.82	3.22
5	15°	3.56	2.68

Fig. d
TABLE OF SHADOW VALUES



elevations of unfluted and fluted Doric column slices



elevations of unfluted & fluted Ionic column slices

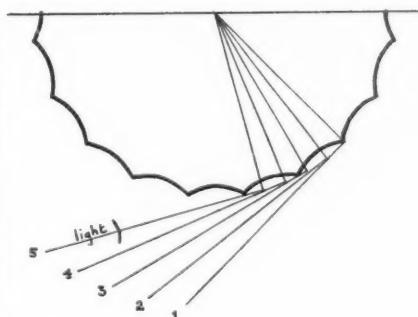


Fig. b
COMPARISON OF SHADOWS ON UNFLUTED AND FLUTED
DORIC COLUMN

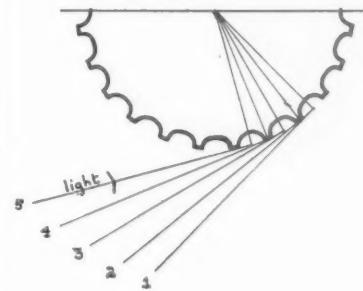


Fig. c
COMPARISON OF SHADOWS ON UNFLUTED
AND FLUTED IONIC COLUMN

The Functional Fluting of the Greek Column

by Ian H. Abbott [A]

The origin of column fluting is somewhat obscure, but whether it was developed from Egyptian prototypes, or from the 'trimming of the log', the problem of the precise function of the fluting in Greek architecture remains to be answered. No serious student will be satisfied with vague theories to the effect that the flutes 'give expression to the vertical shaft of the column by emphasising, so to speak, its verticality' or that they 'emphasise the function of lifting'. The problem must surely be solved in terms of the basic elements of light and shade.

It should be remembered that (a) pre-eminently, Greek architecture was sculpture, built to be seen from all angles as an intensely three-dimensional work of art, the light and shade reinforcing its sculptural qualities, that (b) the clear atmosphere and the keen sunlight of Greece combined to produce high contrasts of sunlight surface and shadow, and that (c) this clear-cut and precise contrast was further emphasised by the immaculate, smooth surfaces of marble and marble stucco.

Their acute sensitivity to form and profile would not allow the Greeks to entertain any suggestions of ambiguity of form in their architecture. The square form must appear demonstrably square and the round column form demonstrably round. They would have observed, no doubt, that the columns, prior to the carving of the flutes *in situ*, lost something of their quality of roundness by virtue of the abrupt demarcation of the lit and unlit surfaces - the columns assuming, from a distance, the light and shade effects of a square form (Fig. a). They would subsequently have observed that the established practice of breaking up the surface of

the column with vertical flutes, produced the effect of softening the harsh black and white division by gradating the shadow edge to a degree which expressed more eloquently the cylindrical nature of the column. The vertical strips of shadow moved towards the light source, alternating with strips of partly lit flute in a gradually reducing ratio (Figs. b and c). In some Doric fluting the high-lit edge of the flute overshoots on occasion into the normal shadow zone, extending the gradation in the opposite direction (Fig. b, Nos. 2 and 4).

It would seem that the design and development of the flute section, together with the introduction of the fillet, were related specifically to this technique of shadow gradation - the degree of gradation being governed by the nature of the profile of the flutes and their number. The shallow Doric flutes did not generate the same measure of roundness as the later Ionic flutes, the deep section of the latter being achieved by the introduction of the fillet, thereby avoiding a 'feather-edge' arris. The substantial hollowing out of the Ionic flute allowed the shadow zone to extend even further round the column, well beyond the normal threshold of shadow (cf. Figs. b and c).

The keen visual perception of the Greeks and their obsession with clarity of form, demanded an uncompromising and unambiguous statement in their column design. This, the basic element of their architecture, required dynamic but nevertheless precise expression. With this end in view, it would seem that the flute profiles were designed to create a shadow pattern, which intensified the expression of the cylindrical form of the column.



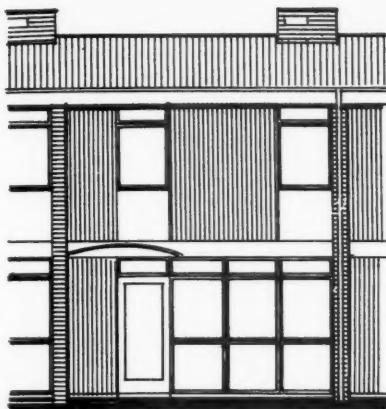
BRS Houses at Hatfield

Visitors were recently shown over the houses at Hatfield designed by the Building Research Station. Together with the BSI test laboratories at Hemel Hempstead these complete the United Kingdom contribution to EPA Project 174 - Modular Co-ordination in Building. Mr W. A. Allen [4] and Mr T. L. Carhart-Harris [4] were present to explain the principles on which the buildings were designed. Other members of the BRS group who currently worked on the scheme were Mr A. E. Mould [4] and Mr H. W. Harrison [4] (Site Architect for this Phase). A small but informative exhibition was provided in one of the houses.

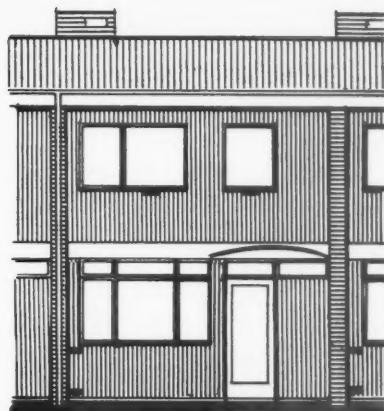
The BRS houses express a somewhat different line of approach to that used in the BSI building, which is based on the consistent application of the 4-in. module as a reference grid. The BRS experiment uses a system of preferred dimensions and a number pattern, but only a planning reference grid. Ranges of components were developed from these preferred dimensions. A subtractive rather than an additive process of design is involved. The predominating component (i.e. a spanning unit) determines the governing dimension and this must be such as to allow a simple breakdown into smaller dimensions. Within this

range a wide degree of flexibility through the use of combinations can be reached. Dimensional co-ordination requires an acceptance of the principles of minus-tolerances and that each component must keep within its allocated space.

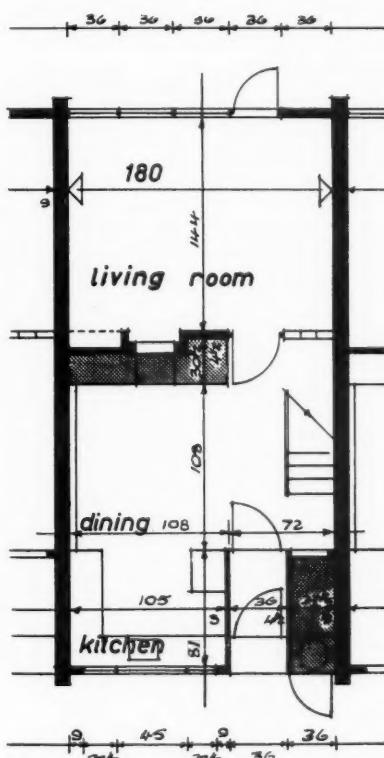
The Hatfield scheme comprises two blocks of terrace-houses and garages. One block of three houses is of the conventional brick box type, the other of four houses employs cross-walls and infilling panels with dry finishes throughout. For demonstration purposes a front and a back elevation of a house in each block were marked with the preferred dimensions on horizontal and



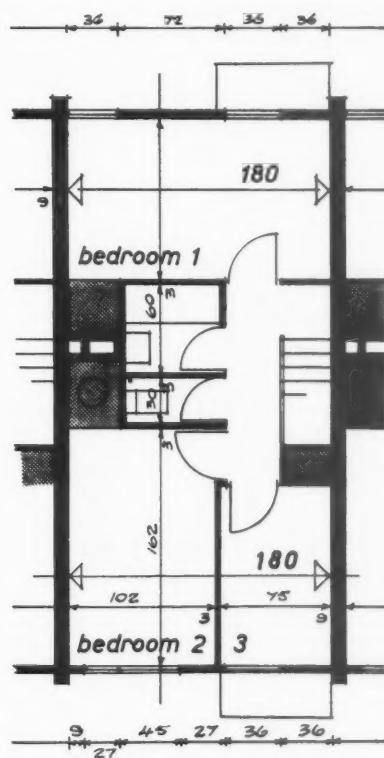
SOUTH ELEVATION



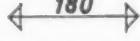
NORTH ELEVATION



GROUND FLOOR



FIRST FLOOR

All dimensions in inches.
Spons — thus 

vertical white battens. Interior surfaces were similarly marked but with black threads and tabs.

An effort was made to treat the job as a normal one using average labour under the usual conditions. Traditional materials were generally used. The roof-covering is of aluminium formed into 14½-in. troughs out of 18-in. sheet on site. Roof trusses were pre-fabricated and all carcass timbers precut to length. Brickwork consists of LBC flettons and stock-facings. External cavity walls are 11½-in. thick with an outer leaf of facing bricks and inner leaf of 4½-in.

thick lightweight concrete blocks grooved for cutting. Wastage on brickwork was between 1 per cent and 2½ per cent. All wastage (apart from oversize bricks) was designed waste. Joists are at 15-in. and 18-in. centres. The first floor depth is 9 in. and the clear room height is 7 ft. 6 in.

One of the critical factors was the setting-out of the internal carcass face of the external walls. The accuracy of this determined the squareness of the whole. The resulting squareness impressed all trades, particularly those accustomed to correcting the dimensional deviations arising through

the work of their predecessors. The maximum vertical deviation from plumb was ½ in. and this only occurred in one position. Storey-rods were provided and notched at 3 in. intervals and also for specific components.

The job went out to tender and construction was completed in six months instead of seven months as planned. The general contractors were Messrs John Mowlem and Co., Ltd.

A full report on the houses at Hatfield will shortly be published by the Building Research Station.

MAURICE GOLDRING



Engineering Division and Central Research Laboratories Bowater Paper Corporation Limited, Northfleet, Kent

The RIBA Architecture Bronze Medal for the three-year period 1957-59 was awarded in favour of the Engineering Research and Development Building for the Bowater Paper Corporation Limited at Northfleet, Kent; Architects: Messrs Farmer and Dark [FF]. Contractors: Messrs Holland, Hannen and Cubitts Ltd.

This group of buildings was designed to accommodate two centralised departments of the Corporation:

(a) The Engineering Division, accommodated in a single storey building, with its chief executive offices, conference room, visitors' waiting area, planned around an inner, landscaped court with a single top-lit drawing office at the rear 120 ft. by 66 ft. 8 in. free from any columns.

(b) The Central Research Division, comprising a three-storey laboratory block with special humidity-control rooms at ground floor level and penthouse mess room - linked by a two-storey laboratory wing to the single storey (with mezzanine) pilot plant building for large scale development work.

The buildings for both Divisions were planned for future expansion, and share a common entrance hall.

All buildings were designed on a 40 in. planning grid and a 10 in. vertical module. External materials were chosen to minimise maintenance costs and to mitigate against the effects of cement dust emanating from nearby cement works, e.g. principal elevations are in glass curtain walling with all metal work and plastic beading sheathed in stainless steel; fascias are in white mosaic; gable walls are in precast exposed aggregate panels.

Landscaping has been purposefully used to unify this and various other buildings on the site.

The following additional notes have been supplied by the architects:

The nature of the problem with its complex service requirements, together with a client request for plenum heating, resulted in deep floors and roof spaces with lattice steel beams.

A further client requirement was the provision of a group of buildings which would require little maintenance.

A 3 ft. 4 in. planning grid was chosen and the position of the grid line in relation to the external stanchions was based on the grid line being the centre line in both directions of the smallest stanchion - in this case a 5 in. by 5 in. square box used throughout the single storey structure. In relation to the larger stanchions in Blocks B and C the grid passes through the stanchion 2½ in. back from the face and at the gable end through the centre line of the stanchion. This system resulted in standardised floor and ceiling units and perimeter beams, but resulted in an unequal corner trim which in this case is simply overcome with the use of a precast concrete unit clad with glass mosaic or rough marble aggregate.

The vertical module is 10 in. and its multiples, for instance precast concrete cladding blocks are 1 ft. 8 in. from centre line to centre line.

In view of the fact that deep beams at 3 ft. 4 in. centres were used which were picking up points for ceiling panels, it followed that the partitions should be on

the grid lines. All partitions stopping on the cornice lines, which were represented by the back face of the stanchion or the stanchion casing in Blocks B and C, filler pieces from the end of the partition to the dropper were required. The window wall which is a system of mild steel droppers and transomes which are loosely morticed and tenoned are held together by fast frames. The window wall passes the outside face of the stanchions. The droppers are on 3 ft. 4 in. centres and can take a variety of finishes: fixed and opening glazing, dished precast concrete units. In this latter case droppers have extra angle fixing welded on - and rough cast glass panels with an Asbestolux composite panel back up. This latter system of construction has introduced its own problems such as the difficulty of keeping the cavity free from dust when assembly is taking place and also preventing vapour pressure getting through the panel and causing condensation. At worst a slight degrading of the brightness of the colour will be apparent and no deterioration of either the Epicote Stove Enamel face to the Asbestolux or to any of the materials used in the vicinity is expected.

The majority of the glazing is fixed and the combination of dropper with universal sections and plastic glazing beads is cased in a simple U section of 19/9 stainless steel. This applies to all trim - head, cill, droppers and transomes.

A small amount of water is expected to penetrate the stainless steel casings, but ample provision has been made for weep holes and draining out at cill level. An integral part of the design is the use of a welded cruciform section fixed behind the cover strips at junctions of droppers and transomes. This wall system was worked out between the architects and the manufacturers Messrs Morris Singer, and it is

intended that when the windows are cleaned the whole of the stainless steel will be wiped down at the same time.

Flooring in the multi-storey blocks consists of precast units at 3 ft. 4 in. by 10 in. by 2 in, shorter units being trimmed to allow for access covers to be placed at regular points throughout the laboratories.

Ceilings are either fibrous plaster slotted panels - the tops of the slots being absorbent due to vermiculite topping over muslin and stove enamel metal acoustic Burgess panels which are largely used in the laboratories. The reason for the use of fibrous plaster in Block A was the need to control noise penetrating the roof space and passing over partitions, although noisy areas will be isolated by means of vertical strips of plasterboard within the roof space.

The system of construction has allowed us to utilise the ceiling space in providing fibrous plaster coffer units with recessed fluorescent lighting in conjunction with a system of louvres underneath fitting flush with the adjacent ceiling panels.

It was intended that the fibrous plaster units would be made up in a variety of moulds, but owing to the cost it was found very simple to use one type of mould only and cut to shape on site. The relatively large number of types of fibrous plaster units required was due to the relationship of the planning grid to the steelwork and the variety of partitions ranging from 3-in. clinker to 9-in. brickwork.

Roof lights are placed in sympathy to the ceiling layout which means that the Briggs roof is virtually made to measure.

The whole question of tolerances has been a problem on this job. It was agreed that plus or minus $\frac{1}{8}$ in. should prevail for the steelwork. The window wall manufacturers wanted the steelwork to be plus

or minus $\frac{1}{16}$ in. and they themselves work to accuracies of $\frac{1}{16}$ in. It was obvious that the most important point from a window wall manufacturer's point of view was the accuracy of the head and cill angles which required drilled and tapped holes. Fixings to immediate steelwork can then be adjusted outside the tolerances and in fact in Blocks B and C where for a variety of reasons the steelwork cannot be plumbed to plus or minus $\frac{1}{8}$ in. a tolerance was agreed with the steelwork manufacturers of plus or minus $\frac{1}{4}$ in. which meant that the window wall fixings had to be modified. This also resulted in the relationship of the inside face of the window wall such as the head of the window transome and the ceiling panels normally filled by pressed metal blind boxes being unsatisfactory. It would appear that in all cases except possibly where Holoplast partitions abut the inside face of the stanchions, and in the case of the blind boxes, that these increased tolerances can be absorbed easily enough. It would possibly be wise to accept in all jobs elements which are capable of easy site adjustment.

Finally it should be stated that a fair degree of standardisation has resulted from the modular planning with one noteworthy exception - that of ceiling panels.

It is interesting to see that the grid has assisted particularly the heating engineers from the point of view of trunking and pipe work. Another office block which is planned for the same site will broadly speaking be similar in detail but in order to overcome the disadvantages already mentioned the planning grid will be slipped 10 in. both ways off the structural grid, which will mean stanchions will always be free standing and a special 10 in. perimeter strip of flooring and ceiling panels will be required.





Malcontenta, back façade, reproduced from a pencil drawing by Sir Basil Spence [*Past President*]
(The Villa Foscari at Malcontenta was designed by Palladio in 1558. It was neglected during the 18th and 19th centuries,
but was restored in 1925.)

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Diary of Events

MONDAY 10 OCTOBER TO SATURDAY 22 OCTOBER. Exhibition to commemorate the centenary of the death of Sir Charles Barry, Past President. Monday to Friday 10 a.m. to 7 p.m., Saturday 10 a.m. to 5 p.m.

THURSDAY 13 OCTOBER, 7 p.m. Architects' Christian Union. Speaker: Maj.-Gen. Wilson Haffenden. Refreshments 6.30 p.m.

FRIDAY 28 OCTOBER. RIBA Ball.

TUESDAY 1 NOVEMBER, 6 p.m. General Meeting. President's Inaugural Address. Unveiling of the late Sir Jacob Epstein's bust of Sir Basil Spence, OBE, TD, RA, ARSA, RDI, Past President.

THURSDAY 3 NOVEMBER, 6 p.m. *Building in the Desert*, by Sir Philip Southwell, CBE, MC, and Mr Frankland Dark, OBE [F], arranged by the Junior Liaison Committee of the Joint Consultative Committee of Architects, Quantity Surveyors and Builders.

Competitions

Note. An applicant for the conditions of a competition must state his registration number.

Design of Wooden Office Furniture. The Timber Development Association invite designers and furniture manufacturers to submit designs for items of office furniture. The design categories and prizes are as follows:

Desks for Clerks (£200), Desks for Managers (£200), Revolving Chairs for Clerks (£150), Revolving Chairs for Managers (£150), Storage Unit (£300).

The competition will be in two stages. In the second stage prototype furniture has to be submitted.

Assessors: Professor Robert H. Matthew, CBE [F].

Professor R. D. Russell, RDI,
Mr O. G. Pickard, Mr Colin
Boyne, Mr S. N. Abbott and
Mr Michael Carson.

Last day for questions: 21 November 1960.

Last day for submitting designs in the first stage: 28 February 1961.

Last day for the second stage: 14 September 1961.

Intending competitors should write before 31 October 1960 to 'Office Furniture Competition', Timber Development Association, 21 College Hill, EC4, enclosing a cheque in favour of the Timber Development Association for half a guinea in respect of each design to be submitted.

Harlow Development Corporation: Competition for Houses and Flats. Last day for submitting designs: 6 March 1961. Full particulars were published in the JOURNAL for July, page 334.

Exhibition Stand: The National Federation of Clay Industries. Last day for submitting designs: noon on Friday 21 October 1960. Full particulars were published in the JOURNAL for July, page 334.

New County Offices at Newtown St Boswells. Last day for questions: 31 October 1960. Last day for submitting designs: 31 March 1961. Full particulars were published in the JOURNAL for May, page 245.

The Westminster City Council intend to promote an architectural competition for redevelopment for housing purposes of a site bounded by Vauxhall Bridge Road, Churton Street, Tachbrook Street and Rampayne Street, having a total area of about 13 acres.

Assessor: Mr Philip Powell, OBE, AADPL [F]. Particulars will be published as soon as available.

Redevelopment of Piccadilly Circus. Last day for submitting designs: 19 December 1960. Full particulars were published in the JOURNAL for September, page 421.

Notes and Notices

NOTICES

Inaugural General Meeting, Tuesday 1 November 1960 at 6 p.m. The Inaugural General Meeting of the Session 1960-61 will be held on Tuesday 1 November 1960 at 6 p.m. for the following purposes:

To read the Minutes of the Ninth General Meeting of the Session 1959-60 held on 21 June 1960.

Professor Sir William Holford, MA, PPTPI, FILA, President, to deliver his Inaugural Address.

To unveil the bust of Sir Basil Spence, OBE, TD, RA, ARSA, RDI, Past President, by the late Sir Jacob Epstein, KBE, DCL, LLD [Hon. A].

To present RIBA Awards for Distinction in Town Planning to The Hon. Lionel Gordon Baliof Brett, MA [F] and Mr Leonard Grange Vincent, AMTPI [A].

(Light refreshments will be provided before the meeting.)

Classes of Retired Members. Under the provisions of Bye-law 15 applications may be received from those members who are eligible for transfer to the class of 'Retired Fellows', 'Retired Associates' or 'Retired Licentiates'.

The Bye-law is as follows: 'Any Fellow, Associate or Licentiate who has reached the age of 55 and has retired from practice may, subject to the approval of the Council, be transferred without election to the class of "Retired Fellows", "Retired Associates", or "Retired Licentiates", as the case may be, but in such case his interest in, or claim against the property of the Royal Institute shall cease.'

The amount of the annual subscription payable by such "Retired Fellow", "Retired Associate", or "Retired Licentiate" shall be one guinea, or such amount as may be determined by resolution of the Council, excepting in the case of those who have paid subscriptions as full members for 30 years, and who shall be exempt from further payment. A "Retired Fellow", "Retired Associate", or "Retired Licentiate" shall have the right to use the affix of his class

with the word "Retired" after it, shall be entitled to receive the JOURNAL and Kalendar, shall be entitled to the use of the Library, and shall have the right to attend General Meetings, but shall not be entitled to vote. A "Retired Fellow", "Retired Associate", or "Retired Licentiate" shall not engage in any avocation which in the opinion of the Council is inconsistent with that of architecture. Nothing contained in this Bye-law shall affect the rights of persons who at the date of the passing of this Bye-law are members of the classes of "Retired Fellows" and "Retired Members of the Society of Architects".

Formal Admission of New Members at General Meetings. New members will be asked to notify the Secretary, RIBA, beforehand of the date of the General Meeting at which they desire to be introduced and a printed postcard will be sent to each newly elected member for this purpose. On arrival at the RIBA on the evening of the General Meeting new members must notify the office of their presence and will then take their places in the seats specially numbered and reserved for their use. On being asked to present themselves for formal admission, the new members will file out in turn into the left-hand aisle and after shaking hands with the President (or Chairman) will return to their seats by way of the centre aisle.

Formal admission will take place at all the Ordinary General Meetings of the Session, with the exception of the following: 1 November 1960, Inaugural General Meeting; 24 January 1961, Presentation of Prizes; 11 April 1961, Presentation of the Royal Gold Medal.

Correspondence with the Institute. In order to facilitate speedier attention to correspondence, and to relieve the staff of a great deal of research, it is particularly requested that members and Students will kindly state in all correspondence with the Institute the class of membership (F, A, L or Student) to which they belong.

COMPETITION RESULT

Metropolitan Cathedral of Christ the King, Liverpool

(The names of the authors of the three premiated designs were given in the JOURNAL for September, page 421.)

Highly commended: Tom Hancock [A]; Norah Glover [A] and Z. Borys; Raglan Squire [F] and Partners; John H. Jakob and Anthony C. Adcock [A], Arizona, USA; Michael Jerome [A]; Clive Entwistle [F].

Commended: Edward Hartry [A] and Associates; Gerald Howes [A] and Peter Eiseman, Mass., USA; John Ashworth [A]; Peter Dickinson [A] and Associates, Toronto, Canada; George P. Buzuk [A]; Andrew Jackson [A]; John G. R. Sheridan [F], Liverpool, and Bruno Fedrigolli, Brescia, Italy; Lewis S. Ash [A]; Guy Morgan [F] and Partners; J. R. Gradige, Peter Jameson [A] and Associates; Michael N. Clinton, Salisbury, S. Rhodesia; Patrick J. Quinn [A], California, USA.

Secretary: E. G. Craven [A] (Warwickshire CC).

Treasurer: J. E. Middleton [A] (Stratford-on-Avon BC).

RIBA Award for Distinction in Town Planning. The RIBA Award for Distinction in Town Planning, which is the only award in town and country planning bestowed by the RIBA, is by conferment only and is limited to Fellows, Associates and Licentiates of the RIBA. Outstanding work in the design and layout not only of individual buildings, but of groups of buildings, is recognised. The Award is made for actual planning work, and while not primarily intended for housing layouts, such layouts of groups of buildings are not excluded.

Recommendations are submitted to the Council by a Standing Committee set up for the purpose. Personal applications by candidates are not entertained; the name of a candidate must be submitted by three or more sponsors, themselves members of the RIBA, who are required to submit details of the candidate's professional qualifications and experience and evidence of the candidate's actual planning work. Nominations may be made twice annually, on 1 March and 1 November, and must be addressed to the Secretary, RIBA, 66 Portland Place, London, W1.

Members upon whom the Award has been conferred are entitled to use the designation 'RIBA Award for Distinction in Town Planning', and it is advised that this should be used in full, or the affix 'Dist. TP' used after the initials 'FRIBA', 'ARIBA' or 'LRIBA', according to the class of membership.

The Institute of Advanced Architectural Studies, York. Two new Autumn courses are arranged in addition to those mentioned in the August JOURNAL.

13-17 October 1960: Course on Analysis of Structural Forms. The object of this new course is to describe methods by which architects may derive sizes of structural members without recourse to calculations. The action of various kinds of structure will be described, and comparisons made between them. Methods of using simple models of cardboard and similar materials, for the derivation of structural action, will be described. The importance of making proper site investigations and the interpretation of results will be discussed.

4-8 November 1960: Course on Advanced Architectural Management.

The course which is being held in conjunction with Messrs Urwick, Orr and Partners Ltd, will describe the principles and practice of management as applied in the professional field of architecture at the level of Principal, or Chief Architect to a Local Authority.

A special feature will be group exercises by members of the course on the following: (a) The background, significance, and seven main processes of management. Problems of organisation, delegation, responsibility, authority, and accountability. (b) The uses of planning as an aid to the architect from the brief until the award of contract, including cost planning and subsequently the problem of the architect's relationship with the contractor and sub-contractors.

(c) The uses of work study, how it can assist in the architect's office organisation, and how it is applied by the contractor.

The fee for each course is six guineas. Full particulars are obtainable from The Secretary, The Institute of Advanced Architectural Studies, Micklegate, York.

English Country Houses. A series of four illustrated lectures on 'English Country Houses' has been arranged by The Society for the Protection of Ancient Buildings and will be given at the RIBA in the Jarvis Hall at 6.15 p.m. on the following Wednesdays:

12 October: Blithfield and its Story, Rugeley, Staffs, by Lady Bagot.

19 October: 'Lamport Hall, Northampton', by Sir Gyles Isham.

2 November: 'Broughton Castle, Banbury, Oxon', by Lord Saye and Sele.

16 November: 'Melford Hall, Long Melford', Suffolk, by Lady Hyde Parker.

Seats at 2s. 6d. each may be reserved by application with stamped envelope to: The Secretary, SPAB, 55 Great Ormond Street, London, WC1, or at the door from 5.45 p.m. on the day of the lecture.

Walter Gropius Lecture Fund. On 18 May 1958, Walter Gropius completed 75 years of a life devoted to the practice and teaching of architecture.

The Harvard Graduate School of Design on that occasion thought it appropriate to honour this pioneer of the modern movement by creating something in his name of permanent value with an educational purpose. They have agreed, therefore, to raise a fund for the Walter Gropius Lectures.

The Lectures are to be given at Harvard by an outstanding figure appointed by the Harvard Corporation after selection by the Faculty of the School of Design from the fields of architecture, landscape architecture, city planning or the related professions.

Each lecturer will be expected to prepare his subject for formal presentation in Cambridge, Mass. Copies will be made available for general distribution and will be sent to all contributors to the fund. The sum of \$50,000 is being sought to provide sufficient endowment for a stipend and expenses.

The Walter Gropius Lecture Fund Committee includes 30 alumni representing all regions of the USA, Canada and other countries. Cheques should be made payable to the Treasurer of Harvard University, and sent to Mr Huson Jackson, Robinson Hall, Cambridge 38, Massachusetts, USA.

The University of New South Wales, Sydney. Lecturer - School of Architecture. The University of NSW invites applications for appointment to the position of LECTURER in the SCHOOL OF ARCHITECTURE at Kensington, NSW.

Salary: £1,743 range £2,448 per annum.

Commencing salary according to qualifications and experience.

Applicants must be qualified town planners and possess an appropriate degree, diploma or equivalent qualifications and should be eligible for membership of the Town Planning Institute in Australia or Britain.

The successful applicant will be required to lecture and conduct studio work in the subject of town planning and assist in the subject of civic architecture.

Allied Societies

Changes of Officers and Addresses

West Yorkshire Society of Architects, Bradford Branch. Chairman, W. D. Illingworth, FRICS [L].

Devon and Cornwall Society of Architects, Exeter Branch. Hon. Secretary and Treasurer, K. A. Ayton [A], 'The Croft', 350 Pinhoe Road, Exeter (Exeter 67268).

Indian Institute of Architects. President, H. N. Dallas [F]. Joint Hon. Secretaries, J. B. Aga [L], Advani Chambers, Sir P. Mehta Road, Fort, Bombay 1, and J. B. Fernandes [A], 58 Khota's Oart, Girgaum, Bombay.

South Eastern Society of Architects

The Royal Institute of British Architects Architecture Bronze Medal Award in the area of the South Eastern Society of Architects for the three-year period ending 31 December 1959 has been awarded to Messrs Farmer and Dark [FF], of Romney House, Tufton Street, London, SW1, for their new building at Northfleet, Kent, for the Bowater Paper Corporation Ltd.

A lunch is being held at the Central Avenue Hotel, Gravesend, at 12.45 p.m., on Thursday 27 October, followed by a meeting at Bowaters, Northfleet, at 3.30 p.m. Bowater guides will be taking parties round the new building and this will be followed by the presentation of the Bronze Medal to the Architects.

A plaque commemorating the award will also be unveiled.

General Notes

Association of Official Architects. The Birmingham and Five Counties Region of this Association have elected the following officers:

Chairman: G. E. Gott [A] (Birmingham City).

Subject to passing a medical examination, appointee will be eligible to contribute to the State Superannuation Fund.

Appointee will be eligible for twelve months' study leave on full salary after six years' service.

First class ship fares to Sydney of the appointee and his family will be paid.

Four copies of applications, including the names of two referees, should be lodged with the Agent General for New South Wales, 56-57 Strand, London, WC2, and a copy forwarded by airmail in an envelope marked 'University Appointment' to the Bursar, The University of New South Wales, Box 1, Post Office, Kensington, New South Wales, Australia, before 14 October 1960.

Certificate in Urban Architecture. A one-year, full-time advanced course in Urban Architecture has commenced at the School of Architecture, Leicester College of Art, in September 1960.

The main object of the course, which is open to holders of a Degree or Diploma of a recognised School of Architecture or registered Architects, is to provide opportunities for advanced study in Architecture, with particular reference to problems associated with the central areas of towns and cities.

The course is under the direction of the Head of the School of Architecture, Mr Robert Howrie, MBE, BA(Arch.) [F], assisted by Mr W. L. Stuart, DA, Dip.TP, AMPTP [A].

South Eastern Society of Architects: Students' Competition. An exhibition of drawings submitted for the Design; Measured Drawings; and Sketching Prizes offered annually, will be held at the Croydon Technical College, Park Lane, Croydon, on 10 November 1960, at 4.30 p.m.

At 5.30 p.m., criticisms of the work on view will be given by Messrs R. Duncan Scott [F] (Senior Design), R. M. V. Messer [F] (Junior Design), and K. E. Black [F] (Measured Drawings and Sketches).

The President of the Society, Mr J. E. A. Brownrigg, BA [A], will present the prizes, after which the Guest Speaker, Mr Bryan Westwood [F], will address the students.

Obituaries

Henry Munro Cautley, FSA [Retd A] died on 13 November 1959.

Mr F. Milton Harvey [Retd F] writes:

'The passing of the late H. Munro Cautley on 13 November last, removed one of the greatest living authorities on the English parish church.'

'His books: *Suffolk Churches and their Treasures* (Batsford 1937), *Norfolk Churches* (Norman Adler and Co., 1949), and *Royal Arms in our Churches* (Norman Adler and Co., 1934) will always be his lasting memorial. Illustrated by more than 700 of his photographs, taken during 60 years, 45 of which he was Diocesan Surveyor to St Edmundsbury and Ipswich.'

'He had visited almost every notable parish church throughout the country; and

in addition, had made a detailed and critical study of the towers of Somerset; deposited in manuscript at Taunton.'

'Apart from his life-long study of churches, he conducted an extensive private practice in East Anglia for more than half a century. Incidentally, during that period, he built or rebuilt no less than 35 banks for Messrs Lloyds; the East Suffolk Hospital; the Public Library and many of the principal buildings of Ipswich, and the Bartlett Convalescent Hospital at Felixstowe, which he balanced on the 9ft circular wall of a "Martello" tower, utilising the old moat as basement.'

'Mr Cautley came of a clerical family of 1640, most of whom, until this generation, served in the Church or the Services, and included no less than four wranglers.'

'He was a forceful and rapid worker, a staunch friend, and when known an engaging personality, who under a somewhat brusque manner, performed many acts of kindness and generosity, and represented a Victorian type now rapidly passing which will be sadly missed.'

Ralph Wilson [Retd F]
died in June 1960.

Mr Sidney Loweth [F] writes:

'To those who had the pleasure and privilege of knowing Ralph Wilson, the news of his death will come as a shock.'

'He started his architectural career in the office of Thomas Dinwiddie, FSI [F], of Greenwich. After which he joined the staff of the then Ministry of Works where he remained for three years before joining the LCC in 1913, where he was principally engaged on hospitals, housing and schools.'

'He was promoted to the status of Principal Assistant Architect (Constructional) in 1944, and retired in 1950.'

'He qualified as an ARIBA in 1910, and was elected a Fellow in 1939.'

'As an architect he was an advocate of the building principles of Lethaby and Lutyens, i.e., "build with the spirit of adventure" and "always keep one finger on tradition".'

'He was responsible in no small measure for much of the best work turned out by the Architect's Department of the LCC.'

'In addition to his profession, he always enjoyed good literature, was quite an accomplished musician, was a most gifted water colourist, and was a member of the Society of Royal British Artists and exhibited regularly at its annual exhibitions and also at the RA.'

'Ralph Wilson was a man of retiring disposition, but of outstanding character. Quiet and kindly - the soul of sincerity in all he did.'

'He never failed to declare himself ready and eager to give his friendship to all who cared to know him. He was a natural friend.'

'He possessed a whimsical humour towards the works of the "stuntologists" and publicity seekers in all the Arts - particularly those of his own profession.'

'His genial and courteous manner made him extremely well liked by those who served with and under him as well as those with whom he came into contact.'

'The world would be a much better place if more of its inhabitants possessed the integrity and abiding faith of Ralph Wilson.'

Membership Lists

ELECTION: 1 NOVEMBER 1960

An election of candidates for membership will take place on 1 November 1960. The names and addresses of the candidates found by the Council to be eligible and qualified in accordance with the Charter and Bye-laws, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, RIBA, not later than Monday 17 October 1960.

The names following the applicant's address are those of his proposers.

AS ASSOCIATES (12)

Beale: John Marshall, Dip.Arch.(Wales), 27 Heol Wernlas, Whitchurch, Cardiff, Glam.

Lewis John, Sir Percy Thomas, C. F. Jones.

Beattie: William Eric, 144 Jervis Street, Armagh Road, Portadown, County Armagh, N. Ireland. Applying for nomination by the Council under Bye-law 3(d).

Beck: Colin Sewart, Dip.Arch.(Leics.), Middle Cottage, Orpines, Wateringbury, nr. Maidstone, Kent. Robert J. Howrie, E. T. Ashley Smith, R. Tilley Green.

Burns: Alexander, DA(Edin.), 59 Mountcollier Avenue, Belfast 15, N. Ireland. E. R. Taylor, J. H. Swann, John Nicol.

Dewhurst: Robert Keith, B.Arch., MCD (L'pool), AMPTP, Popocatepetl, 27 Hermitage Woods Crescent, St Johns, Woking, Surrey. W. C. Brown, Prof. R. Gardner-Medwin, Hubert Bennett.

Green: John David, 18 Cherington Road, Henleaze, Bristol. C. St C. Oakes, H. B. Marshall, Eric Ross.

Houseman: Alan Burberry, Dipl.Arch. (Northern Polytechnic), 'Kingwell', South Hill Avenue, Harrow, Middx. C. G. Bath, Val Elsey, Paul H. Treadgold.

Kenyon: Eric Burnside, B.Arch.(L'pool), Wood Bank, Prestwich Park Road South, Prestwich, Lancs. Prof. R. Gardner-Medwin, G. S. Hay, Prof. Clifford Holliday.

Lambie: Paul William, DA(Edin.), 126 Westfield Lane, Mansfield, Notts. F. W. Tempest, J. Holt, W. H. Kinmonth.

Lodge: George, 'Twin Treese', 5 East Close, Wychbold, nr. Droitwich, Worcs. Applying for nomination by the Council under Bye-law 3(d).

McIlveen: Hugh Robert, MA, DA(Edin.), 15 College Gardens, Belfast 9. Prof. Robert H. Matthew, H. A. Lynch-Robinson, James R. Young.

Markcrown: Paul Radford, Dip.Arch. (Sheffield), Friars Hall, Southend Road, Great Baddow, Chelmsford, Essex. Prof. Stephen Welsh, H. B. Leighton, Harold Conolly.

ELECTION: 10 JANUARY 1961

An election of candidates for membership will take place on 10 January 1961. The names and addresses of the overseas candidates found by the Council to be eligible and qualified in accordance with the Charter and Bye-laws, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, RIBA, not later than Friday 30 December 1960.

The names following the applicant's address are those of his proposers.

AS ASSOCIATES (11)

Chua: Charles Kim Kuye, B.Arch.(Melbourne), Dip.Arch.(Melbourne), 15 Jonker Street, Malacca, Malaya. R. G. Parker, Prof. Brian B. Lewis, Mrs Hilary Lewis.

Kenton: Morris, Naramata, British Columbia, Canada. J. Russell Baxter, J. H. Wade, D. W. Lichtensteiger.

Kirby: Ronald Hubert, B.Arch.(C.T.), PO Box 1032, Lusaka, N. Rhodesia. Prof. L. W. Thornton White and applying for nomination by the Council under Bye-law 3(d).

McGoran: William, B.Arch.(NU), Dublin, 6630 Sprague Street, Philadelphia 19, Pennsylvania, USA. R. E. E. Beswick, A. D. Kirby, T. Burrough.

McLaren: Brian Ross, B.Arch.(Natal), PO Box 449, Bulawayo, S. Rhodesia. Applying for nomination by the Council under Bye-law 3(d).

Manning: Richard Arthur, Dip.Arch.(Birm.), Apt. 25, 3185 Bedford Road, Montreal 26, PQ, Canada. A. N. Harris, A. Douglas Jones, F. W. B. Charles.

Shah: Syed Alam, 1/4/46 Nazimabad, Karachi 18, Pakistan. H. A. N. Medd, M. P. Mistri, Prof. Brian B. Lewis.

Sherlock: Derek Alfred, B.Arch.(C.T.), PO Box 684, Lusaka, N. Rhodesia. Prof. L. W. Thornton White and applying for nomination by the Council under Bye-law 3(d).

Spiff: Alfred George Tekenate, BA(Arch.) (Sheffield), c/o Ministry of Works Headquarters, Enugu, Nigeria. Prof. John Needham, Prof. Stephen Welsh, H. B. Leighton.

Warnebury: Lewisnenedge Gaminissa Fernando Guna, B.Arch.(Melbourne), 'Savanthi', 5th Cross Road, Panadura, Ceylon. Prof. Brian B. Lewis, R. G. Parker, Mrs Hilary Lewis.

Wong: Kok Yan, B.Arch.(Melbourne), 74 Joo Chiat Place, Singapore 15. Prof. Brian B. Lewis, R. G. Parker, Harry Winbush.

Members' Column

This column is reserved for notices of changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than of posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr Roger Booth [A] has been appointed Deputy County Architect for Lancashire.

Mr W. Gillitt [A] has been appointed Co-ordinating Architect to the Knesset Building Committee and he will be pleased to receive trade catalogues at c/o POB 132, Jerusalem, particularly those dealing with windows, finishes and services suitable for the new Parliament Building of Israel.

Mr J. B. Lyth [A] has been appointed District Architect, Wellington, and his address is now c/o Ministry of Works, District Office, PO Box 8008, Wellington, New Zealand.

PRACTICES AND PARTNERSHIPS

Mr G. Stuart Alderson [A] has been admitted as an associate of Messrs Leith and Bartlett of Melbourne and Canberra, Australia.

Mr S. T. Baker [A] has opened an office at 74 Victoria Street, Westminster, London, SW1 (Victoria 2622).

Mr S. Lothian Barclay [A] and Mr Geoffrey Jarvis [A] are carrying on their partnership under the style of Lothian Barclay and Jarvis at 19 Woodside Place, Glasgow, C3 (Douglas 2228). The firm incorporates the previous practice of James W. Reid.

The practice of Norman M. Barrett and Sons has ceased. Mr N. M. Barrett [L] has retired and Mr Peter R. Barrett [A] has commenced private practice separately at 67 Albert Road, Colne, Lancashire, (Colne 33).

Sir Hugh Casson [F], Mr Neville Conder [F], Mr Ronald Green [A] and Mr Michael Cain [A] have, since 1 April 1959, been practising in partnership from 35 Thurloe Place, London, SW7 (Knightsbridge 4581), under the title Sir Hugh Casson, Neville Conder and Partners. The associates continue to be Mr Timothy Rendle [A], Mr Frank Shaw [A], Mr Montague Turland [A] and Mr Donald Bayley [A].

By agreement with the executors of the late Mr M. O. Cleland [L] and Mr S. P. Hayward [L], the practice of Cleland, Hayward and Barratt, at 36 Waterloo Road, Wolverhampton, has been taken over by Mr John N. Barratt [A] at the same address.

Messrs Covell and Matthews (Mr R. G. Covell [F] and Mr A. E. T. Matthews [A]) have taken into associate partnership Mr Brian G. Falk [A]. The firm will continue to practise under the style of Covell and Matthews

at 34 Sackville Street, London, W1, and at 6 Lexington Street, London, W1.

Messrs Handisyde and Taylor [A] of 68 Great Russell Street, London, WC1, announce that Mr D. Ingram [A] is now an associate in the firm.

On the death of Mr Ernest M. Joseph, c.BE [F], the practice of Messrs Joseph [F/F] will be carried on by the remaining partner, Mr F. Milton Cashmore [F] who has taken into partnership Mr Peter H. Crook [A], Mr H. N. W. Grosvenor [A] and Mr Niall D. Nelson [A], who have been associates of the firm for some time. The practice will be continued under the style of Messrs Joseph, F. Milton Cashmore and Partners at their present address at 3 (North), King's Bench Walk, Temple, EC4 (City 5631-3).

Mr Peter A. S. Scott [A] has commenced practice at Lloyds Bank Chambers, Bridge Street, Newbury, Berkshire (Newbury 2864), where he will be pleased to receive trade catalogues.

Mr Donald A. Shanks [F] and Mr Edwin S. Leighton [A] have commenced practice under the style of Shanks and Leighton at 26 Wellington Place, Belfast 1 (Belfast 30075), where they will be pleased to receive trade catalogues.

CHANGES OF ADDRESS

Mr Raymond Binyon [A] has changed his business address to c/o Liverpool Regional Hospital Board, 55 Castle Street, Liverpool.

Mr Robin D. Butterell [A] has moved and is now in private practice at 42 Charlotte Street, London, W1 (Langham 6432). This is now his only address; representatives will be seen only when an appointment has been made in writing.

Mr K. J. Carroll [A] has changed his address to Flat 3, 6 Town Walls, Shrewsbury, Salop.

Mr Hugh P. Crallan [F] has changed his address to 11 Belmont, Bath (Bath 64084).

Mr G. M. Crossan [A] has changed his address to 10 Maitland Park Road, Musselburgh, Midlothian.

Mr Geoffrey Edmonds [A] is at present in the USA and his address is 427 Temple Street, New Haven 10, Connecticut.

Mr G. T. Evans [A] has changed his private address to 63 Brookridge Drive, Scarborough, Ontario, Canada.

Mr Norman T. Gilroy [A] has changed his address to 5 Taylor Lane, Larkspur, California, USA.

Mr Gerald O. Hunter [A] of Sonning-on-Thames, Berks, who resigned from Local Government (Senior Architect, County Borough of Reading) and commenced private practice on his own account in May 1960, has now taken offices at 68 Queen's Road, Reading (Reading 52868), where he will be pleased to receive trade literature and catalogues.

Mr A. Kelt [A] has changed his private address to 21 Upperthorpe Road, Sidcup, Kent (Footscray 9388).

Mr A. G. Kirkwood [A] has changed his address to Assistant District Architect, Department of Public Works, 225 Jarvis Street, Toronto 2, Ontario, Canada.

Mr Edwin S. Leighton [A] has resigned from his position as Chief Assistant Architect, Education Architect's Department, Belfast, and his address is now 26 Wellington Place, Belfast 1.

Mr L. J. Michaels [A] has changed his office address to 62 Rosslyn Hill, NW3.

Mr Michael Moss [A] has changed his address to 7 Derby Terrace, Derby Road, Nottingham (Nottingham 47122).

Mr Paul Ospalak [A] has changed his address to 15 Truman Road, Willowdale, Ontario, Canada.

Mr Alan Reid [A] has changed his address to 628 Mutual Avenue, Ottawa 2, Ontario, Canada.

Mr Donald A. Shanks [F] has resigned from his position as City Education Architect Belfast, and his address is now 26 Wellington Place, Belfast 1.

Mr Russell Walker [F] has changed his address to 13 Trinity Street, Colchester, Essex (Colchester 72751).

PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Old-established and progressive firm of Yorkshire architects wish to contact similar firms in London and other parts of the country with a view to amalgamation, basically to expand the scope of both practices, or would consider buying practice where existing partner is contemplating retirement. All communications will be kept strictly in confidence. Box 156, c/o Secretary, RIBA.

Partnership available in established Lincolnshire practice to qualified architect willing to undertake nine months' probationary period at good salary. Interesting and varied work of good quality covering a wide area. Box 173, c/o Secretary, RIBA.

Progressive architect established in Oxford and with expanding practice would like to meet another practising member with design ability and energy, with a view to early partnership. Box 174, c/o Secretary, RIBA.

Associate with newly formed own practice would welcome opportunity of purchasing an established practice of member wishing to retire or gradually retire. Liverpool or Lancashire. Some capital available. Box 175, c/o Secretary, RIBA.

Busy firm of Architects in the Cambridge, Huntingdon Area require a young qualified assistant with a view to partnership within twelve months. Box 176, c/o Secretary, RIBA.

Associate with expanding practice in Hampshire wishes to contact another with work in same area, and Berkshire, Surrey and Wales. A London office would be an advantage. Box 177, c/o Secretary, RIBA.

MISCELLANEOUS

For sale. 11 buckram bound volumes of the RIBA JOURNAL in good condition; volumes 49-51, 56, 58, 60-65. £1 each volume. Box 172, c/o Secretary, RIBA.

Member wishes to obtain 35mm slide transparencies of dwellings, all periods, for lecture purposes. Box 178, c/o Secretary, RIBA.

A member wants to buy PERSPECTA VOLUME V, fifth annual of the YALE ARCHITECTURAL JOURNAL. Write with the price required to Box 184, c/o Secretary, RIBA.

The Royal Institute of British Architects, as a body, is not responsible for the statements made or opinions expressed in the JOURNAL.

ABS

PERSONAL PENSIONS

For the self-employed professional man the Income Tax concessions of the Finance Act, 1956, are important when a personal pension is planned. Taking into account the inquirer's tax position the actual advantages obtainable in this way should be compared with those secured by alternative arrangements before a decision is reached. In view of the association of this Agency with the leading Life Offices in the Pension field, expert advice is freely available on request and without obligation.

Staff pension arrangements may be made with Inland Revenue approval for small as well as large staffs, including cases where a single employee only is concerned. The requirements of professional firms vary widely and there is no universal solution. We should be glad to discuss your requirements and put before you suggestions to meet your problem with details of the outlay involved and the effect on tax liability.

Please address inquiries to:

The Manager,
ABS Insurance Agency, Ltd.,
66 Portland Place,
London, W1.
(Telephone: Langham 5533)

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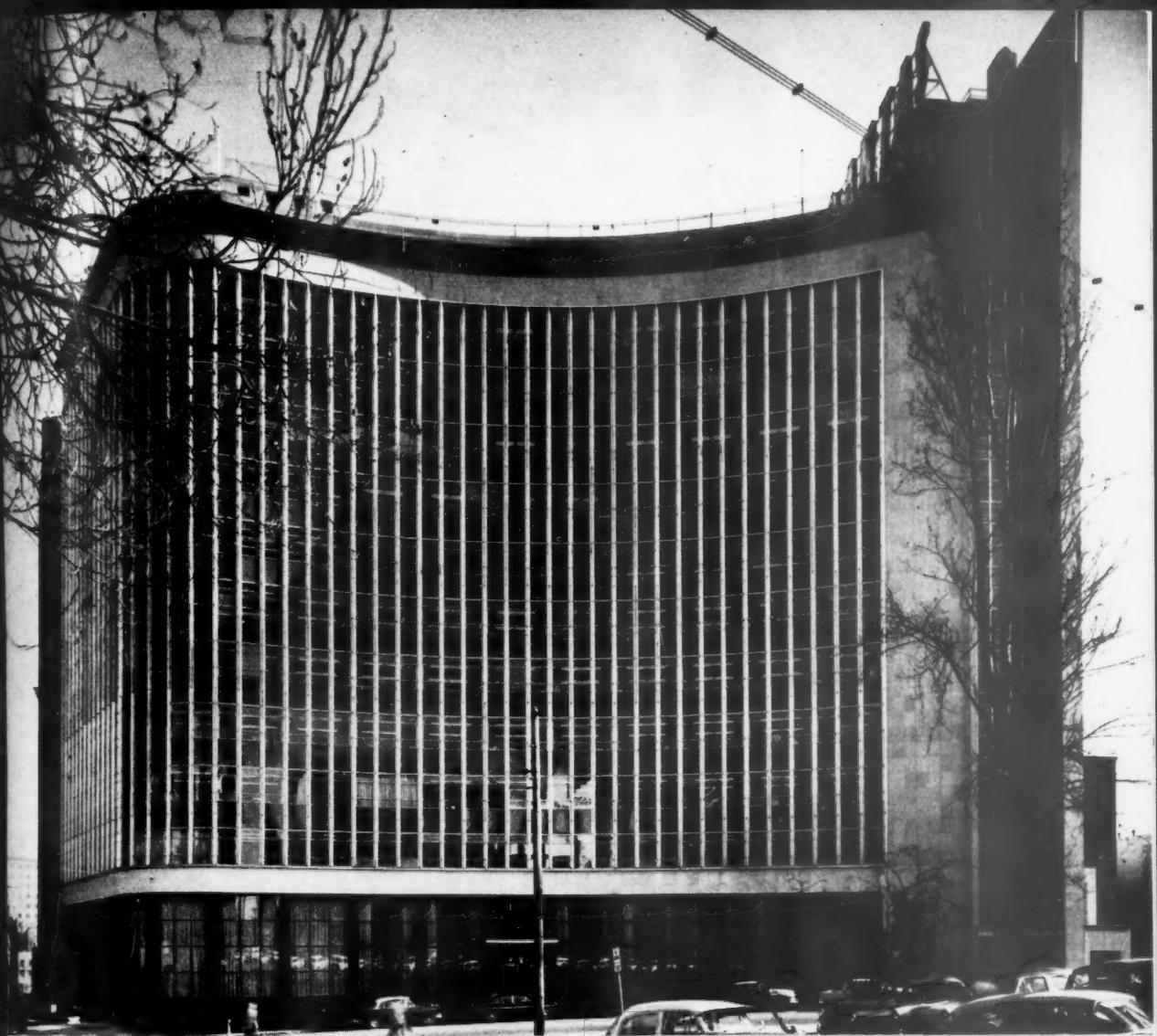
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The Jury appointed to select the work best deserving recognition for merit among the buildings completed during the three years ended 31 December 1959, in the area of the New South Wales Chapter of the Royal Australian Institute of Architects, awarded the diploma in favour of Qantas House, Elizabeth Street, Sydney. Architects: Messrs Rudder, Littlemore and Rudder, FFRAIA [44]

Doxiadis Associates

I was on holiday in Greece with a party of graduates and undergraduates from British universities. We had a free day in Athens so three of us who were architects decided to call at the office of Dr Doxiadis who had suddenly sprung into fame in England after delivering the RIBA Discourse.

The office, designed by the firm, is a fine new eight-storey building running north-west to south-east with lighting on both sides. In front of it but to a lower height is the new Athens Institute of Technology. A lecture hall joins the two buildings at ground-floor level so that three sides of a courtyard are built up. The fourth has a high white brick wall embellished with a mural painting. A pool with goldfish, a young olive tree, a bronze life-size dog and a small drinking-fountain are all linked with most skilful planting to give a restful yet exhilarating effect. Beneath the courtyard is a garage.

Dr Doxiadis was not in as his wife was

seriously ill, but we were introduced to Mr John C. Piperoglou, one of his three personal assistants, who is an economist, the others being an architect and an engineer. From his office we looked over the roof-tops of Athens to the Acropolis which dominates the town.

Between 1945 and 1950 Dr Doxiadis was appointed Reconstruction Minister and he was responsible for the erection of 250,000 rural houses with funds from the USA. During this time he made many international contacts.

In 1950 Dr Doxiadis entered into partnership with four other Greek architects, and it is still the same team which leads the huge organisation they have built up over ten years.

The present office is 500 strong, 400 of whom are on the professional side, and 200 of these are qualified. This includes architects, town planners, engineers and quantity surveyors. There are many site

organisations all over the world, but the firm does not itself do any contracting. The set-up is, in fact, similar to our own, with tenders based on quantities.

There is one branch office in the USA which is self-sufficient, but keeps in close touch with Athens. In America a city will declare an area for redevelopment and call for bids from commercial firms who wish to carry out the work. The firm is then chosen and it is required to hold an architectural competition to decide the best scheme before they are given the contract. Such competitions have enabled Doxiadis Associates to get a strong position in the USA. One firm for whom they are working is Reynolds Aluminium who wish to develop light construction in a rebuilding project which is timed to extend over ten years. Doxiadis Associates are carrying out redevelopment in Cincinnati, and they are doing the Eastwick, Philadelphia, master plan together with the execution of the

work down to the minutest detail in every house. This is how they like to have it; but, if they cannot control everything, they would rather get the town plan right and hope that some of the rest will follow.

In other countries such as Pakistan, Sudan and Iraq they have branch offices which gather the necessary information and control the work. For all of these, except the one in America, the designs and working drawings are prepared in Athens.

They are working on the design of a new capital for Pakistan which will incorporate the present Rawalpindi and be called Islamabad. They also have a huge scheme for refugees, and are designing about a dozen educational buildings including schools and universities. For Khartoum they are revising the master plan and drafting necessary regulations.

Their clients are mostly governments, and quite a number of these are independent or Commonwealth states which used to be under British rule, so that many British customs continue. The documents are all prepared in English because this language is understood by all technical men who will have to work with them. Mr Piperoglou himself speaks excellent English and had just returned from a visit to England.

We asked about contractors. In Greece they have all types from the large well-equipped firm able to undertake all kinds of work down to the small one-man craftsman. The Government grades contractors into four classes according to their building or civil engineering records, and permits them to tender accordingly. A contractor can work up from the lowest to the highest grade.

In some countries abroad, such as Iraq, Doxiadis Associates had to train their own contractors as part of Government policy. For instance, one big job which was capable of being handled by one large outside firm might be given to a number of smaller local men to give them experience, although this would cost more.

We inquired about education and professional training in Greece. Elementary education is free and compulsory for everyone; secondary schooling is free but not compulsory. There are universities at Athens and Salonika and the competition to get into these is very great. A small contribution, about £12 a year, is required from students to pay for this training. Each university has a School of Architecture and graduates can obtain Government licences to practise as architects. At the end of their school training they spend a year abroad in architects' offices in Europe or America. Many town planners, however, come to Great Britain.

The Athens Institute of Technology was started largely owing to the drive of Dr Doxiadis and he was its head for the first two years, and many of the firm's staff teach there now in the evenings. It sets out to train technical assistants for architects, engineers and builders. The top two or three students in each class every year are offered jobs in the firm.

The Institute has two teams of economists working on research into practical problems and Mr Piperoglou is closely connected with these. It owes much to gifts from the Rockefeller and Ford foundations and to Government help, but it is an independent body. The Government make figures and information available to the research teams and may be expected to pay

for the results if they are of national importance, which is usually the case.

We wondered what chance there was of a British architect obtaining work in Greece especially with Doxiadis Associates. A student or inexperienced architect would be no use to them unless he could stay more than a year. It was more expensive for them to employ foreigners who could not live so cheaply as Greeks whose homes were nearby. But they were interested in experienced men who could stay three months or more. Shortage of skilled staff, more than anything else, limited the amount of work they could tackle.

If a British architect wished to carry out work in Greece a special permit would be necessary. The drawings to go before a local authority would have to bear the signature of a Greek architect and some kind of collaboration with a Greek firm would be desirable.

We inquired further about Government organisation and policy since it was obvious that these would have a decisive effect on all matters connected with town planning and building. We had supposed that Greece would be free from the departmentalism and cumbersome methods of our own civil service, but this was by no means the case. The Greek civil service had traditions going back one hundred years and during much of that time it had been autocratic. It was now very difficult to find the middle route. Too much democracy leads to inefficiency, and if too much authority were given to individuals it opened the door to favouritism.

The measures necessary for the good of the country were often unpopular which was why it was so necessary to have governments in power for several years to carry them through. For instance, it was obvious that the economy could no longer afford a large housing programme after building the quarter of a million houses with USA aid. Today no Government department, bank or official body is allowed to lend money for housing, except where it is necessary – such as the experimental block of flats for low-income families which the firm is designing for the Piraeus, the port of Athens. All money is channelled into productive expenditure. Foreign investment in Greece amounts to 130,000,000 dollars a year or 23 per cent of the whole. There is a large civil engineering programme for road building, and the firm has a big share in this.

Immediately below the Prime Minister is the Vice-Premier known as the Minister for Co-ordination, and he has power over all the other Ministries including Finance, Housing, Public Works, Transport, Education, Defence, etc. It is he who settles priorities and decides with the assistance of the Finance Minister how the money is to be raised and spent.

Where it is possible the Government prefers, as we do, to set up corporations, publicly owned but independently run, such as the Power Corporation. These receive directives through the civil service whose duties are more advisory than executive.

We got back to the subject of the Doxiadis organisation. The Doctor is known as the President and he still does much designing himself, especially town planning. The administration of the firm is necessarily complex and, as our host remarked, 'We are quite a headache to ourselves'.

We were introduced to Mrs Zizi Kremides who was in charge of the printing department, and she showed us round the offices and the Technical Institute.

We began on the flat roof which is easily accessible and which provides a bird's-eye view over Athens in one direction and towards Lycabettus hill in the other. There is a lift to all floors and they are also connected by a delicate *in situ* reinforced concrete oval staircase.

The top floor is occupied by the directing staff, and it was there that we had our interview. The staircase is on the centre of one side of the building and opposite to it on each floor is a corridor serving about nine private offices. The corridor opens at each end onto a large office the full width of the building. The end walls in this room displayed neat arrangements of key drawings, while both of the long walls had continuous windows with venetian blinds. Drawing boards and desks were at right angles to outside walls. It is thus easy to divide the building up into self-contained units each with one large and three or four small rooms. Sometimes there will be several units for the same subject such as Town Planning which embraces much of the firm's work. Then there are units for Civil Engineering, Building, Model Making, Economic Research, Administration and Printing. We saw the designs for Islamabad as perspectives and coloured plans on the walls and again in the model room where they were working on a typical section of the town to a scale of about 1/1,000. Each block between traffic roads was self-sufficient with its own school, shops and community buildings.

Near the Conference room was a room containing neatly bound records of the firm's work. They issue a magazine of their own called *Ekistics*, a term invented by the President to describe the economic, scientific and social aspects of town growth.

Each large job is presented to the client in the form of a book containing the brief, the solution, statistics and small reproductions of drawings. The printing of these is most expertly done in a room in the basement where the printing of working drawings is also undertaken. It would be a very good thing if copies of these valuable publications could find their way into the RIBA Library.

Work starts at 8.00 a.m. and continues to 3.30 p.m. There is no 'lunch hour', but there is a canteen on the first floor overlooking the peaceful courtyard where you can take refreshment during a convenient break in your work. This means that the staff get most of their work done before the hottest part of the day. After a siesta at home they have the long evening free and none of the shops close until eight or later.

At the Athens Institute of Technology full term had ended, but there were still some Pakistani students working on in order to save expensive vacations away from home. These were away at Olympia studying the town planning there. We did not therefore see any of the students at work, but we were shown over the whole building.

We came away from Greece with the impression that the country was well governed, that the people were happy and working hard, and that the men at the top were able to hold their own in any company.

LESSLIE K. WATSON [F]

Architecture in Evolution

Continuation of The Annual Discourse, 1960

Given by Dr Constantinos A. Doxiadis

at the RIBA on 10 March

The House

Let us turn our attention to the house and how we can solve the problem of the house of the future. We must recognise from the very beginning that we shall have to find several different types of solution. We have already explained the changing nature and content of the house, and if we want it to be properly adapted to our age, we shall also have to understand that the very concept of a house is undergoing a change. For example, the site for a single-family house must be conceived as a site for six or eight persons. This is the logical development of a family, for, though the house may start by housing only two persons, it will in all probability need to expand to house up to eight persons. In rural areas or neighbourhoods of single houses and relatively low density this is literally possible. In such cases, we can follow this policy of making our houses grow and expand, a policy which was used as the basis of the solution to the problem of rural rehousing in Greece, where 200,000 houses were constructed.

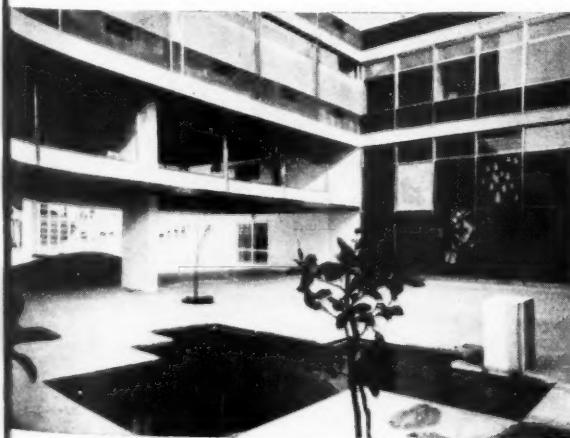
This necessity for an expandable house may lead us to other parallel types of solutions. For example, in a city we might build the ground floor first and add the second floor later, or we might build a two-storey unit and only later add parts, such as rooms or minor auxiliary elements, as in a recent project in Philadelphia. This kind of idea will lead us to a radically different type of house design, one allowing for natural and gradual growth, to be followed perhaps by the redivision and reallocation of the house among more families, yet still allowing for its final reunification into a single house if and when that proves to be necessary.

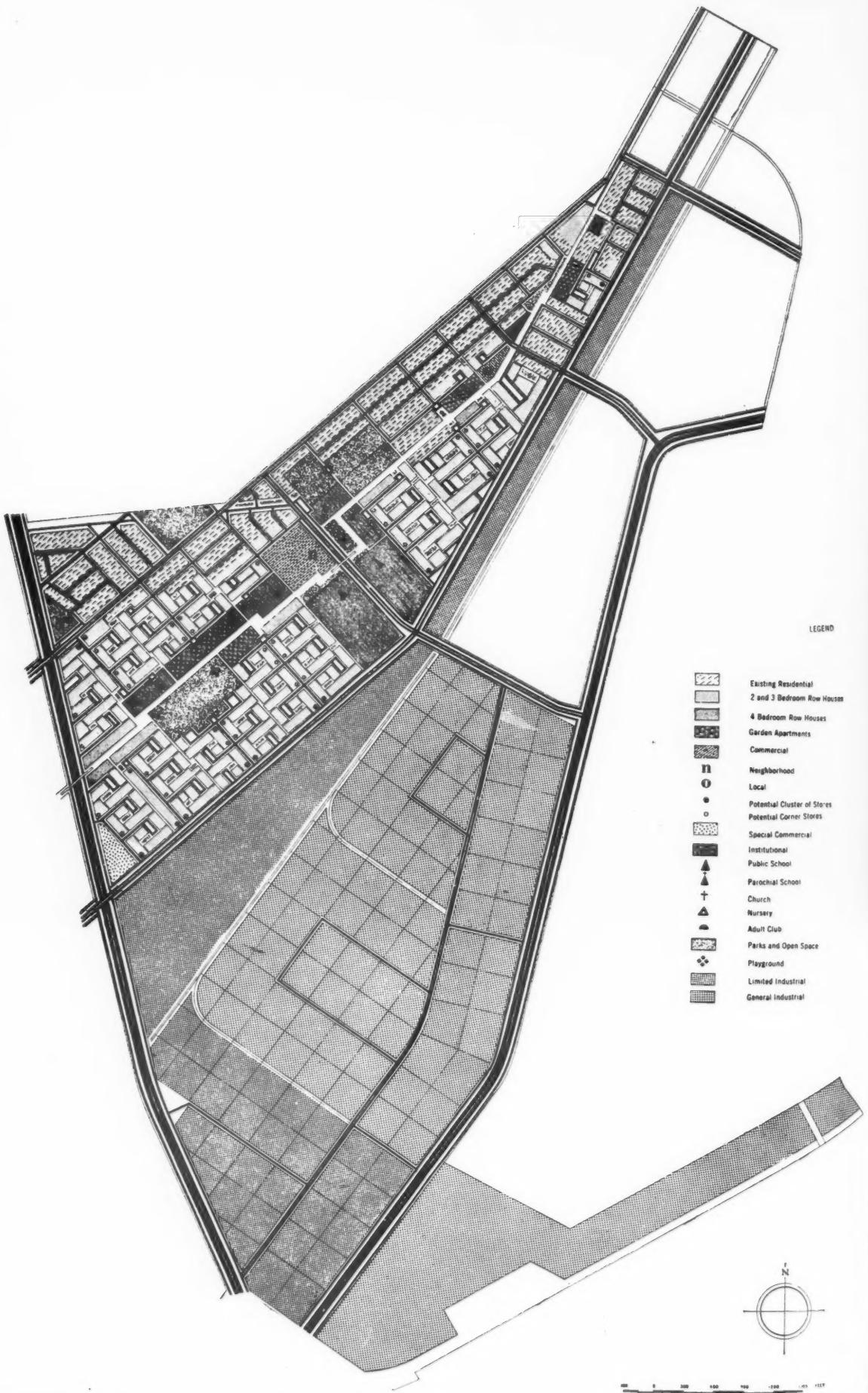
There are, of course, certain areas where such ideas could not be implemented, and we would then need to consider the co-operative house, within which a family can change or exchange units inside a broader complex of buildings, so that the family is always brought into touch with a unit of appropriate size. This applies also, though in a different context, to rented houses where the change of size takes place according to the rules of a liberal economy. In all these cases the very conception of housing has radically changed.

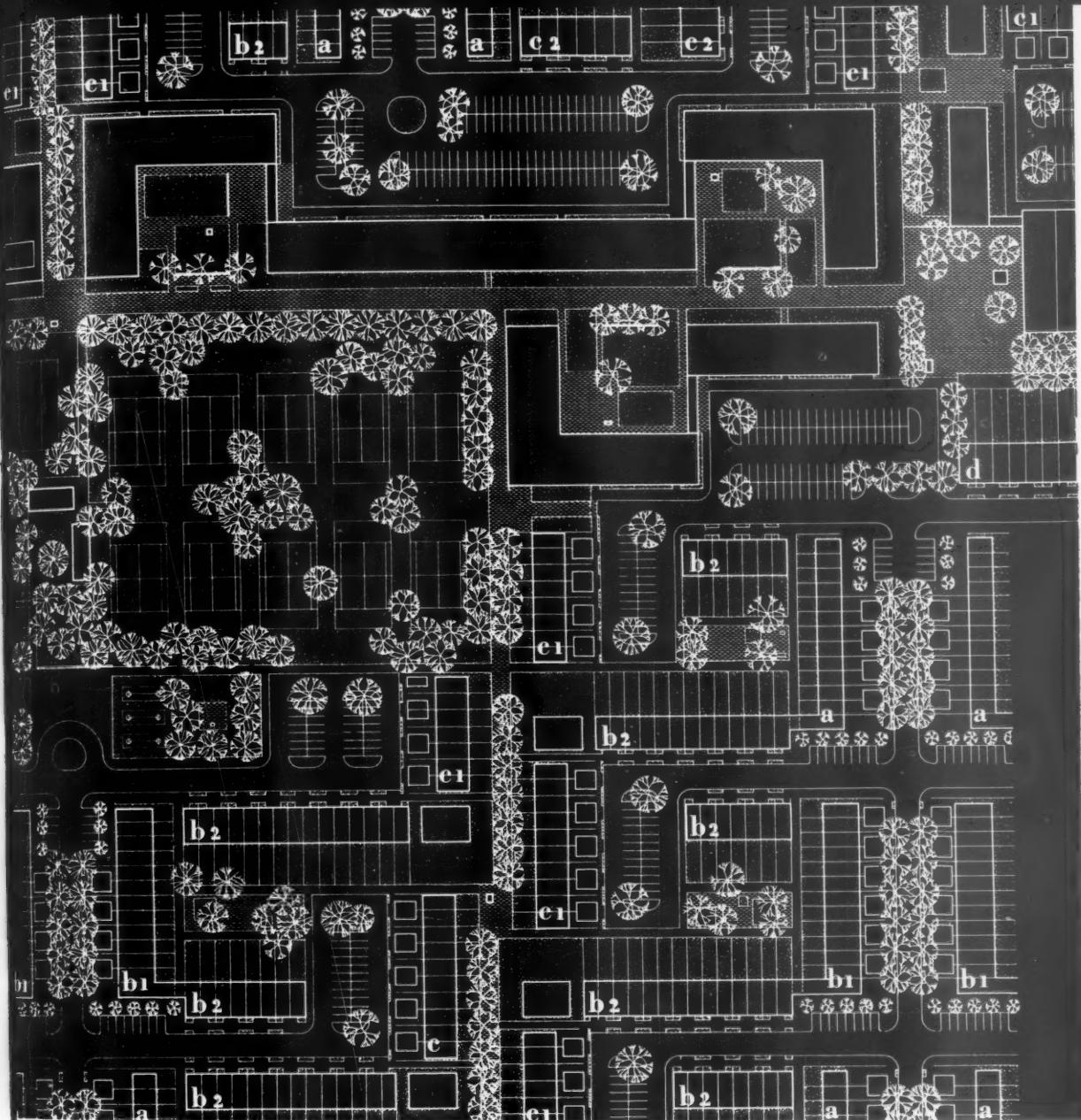


An example of a large modern building enclosing a quiet space with fountain, pond and green where people can relax

(The Doxiadis Associates Building in Athens)





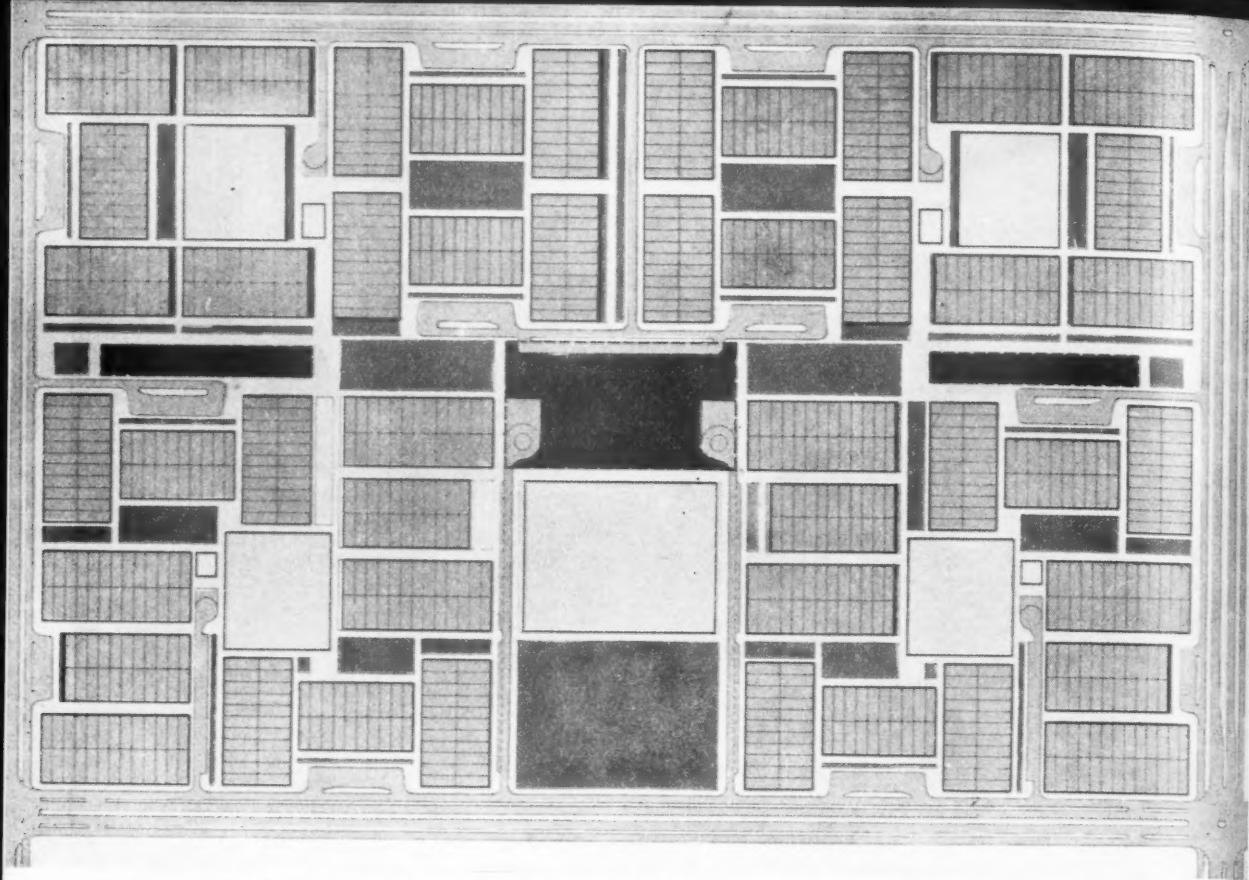


A Sector of the Eastwick Redevelopment Project, Philadelphia
 Eastwick is physically part of a district defined by highways. Within it, a network of primary roads incorporating some of the existing major streets was created to divide the area of the project into 16 major sectors; these sectors are the basic units of development, instead of the blocks – a notion of the past. Every sector is an entity in itself, and has a character of its own; all sectors together form the major Eastwick area.

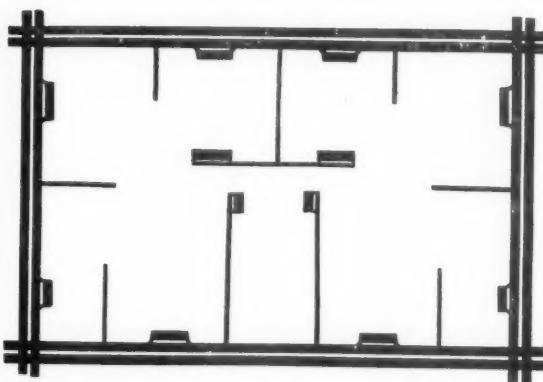
The sectors are planned to allow the implementation of the principles of the different scales: the human and the machine scale. High-speed traffic is confined to the speedways surrounding the sector, while 'collector' roads of reduced speed, feeding the major streets, enter into each sector. Inside the sector though, a network of walks allows the pedestrians to circulate freely within the small cluster of houses (see above) into the next cluster to the parks and open spaces and finally to a main pedestrian greenway or esplanade bisecting each sector. The plan illustrates the proposed first stage of the Eastwick redevelopment project. It comprises four residential and two industrial sectors (facing page)

On the basis of the principles we have outlined, we can create even larger syntheses, like that of the University of Punjab, where there is a human sector, a human scale starting from a core and expanding in all directions but keeping a hierarchy with all the possibilities of a living organism within the synthesis. The whole synthesis in the case of this University is based on the principle that it is impossible to predict its needs in, say, ten years' time and so room must be left for growth.

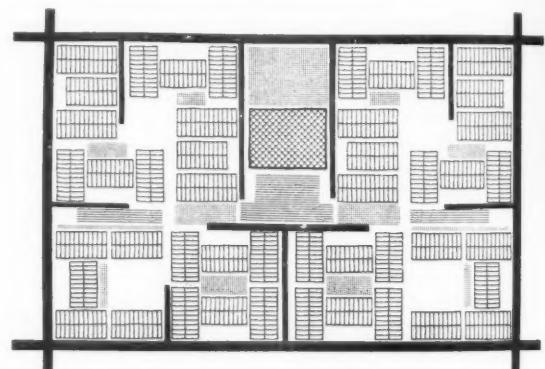
The important thing is that the synthesis must be free, non-symmetrical and non-academic, so that we can develop our ideas freely and let our architecture expand. On these principles we can definitely create major syntheses; with the human sector, the growing building and the expanding and changing house, we serve the needs of socialisation and greater production, so that architecture can again be felt in our cities in the form of major projects. Projects now envisaged in England for the heart of London aim to serve just such a purpose. Architecture, lost because of the small scale of its subject in relation to the enormous scale of human creation, is once more beginning to gain in importance.



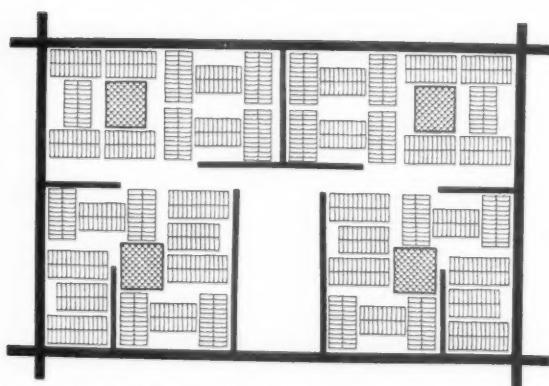
LAYOUT PLAN OF AN URBAN RESIDENTIAL SECTOR AND ANALYSIS OF COMMUNITY STRUCTURE



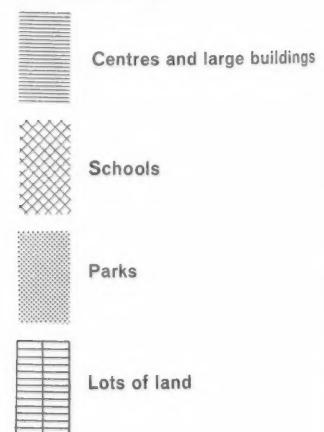
Vehicular road network



Public spaces in relation to residential areas

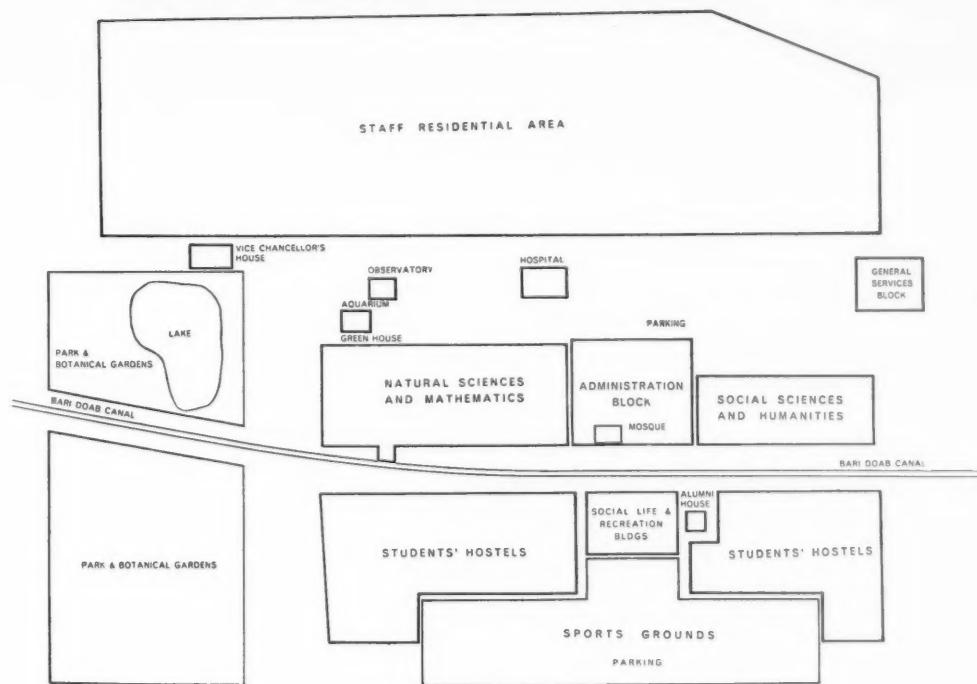


Schools in relation to residential areas





The University of Punjab (key below to smaller scale)



But these ideas of growth, which are the basis of our synthesis, must not lead us to think that the only possible solutions are extrovert solutions of growth and that we may not also retain our introvert ones. On the contrary, the introvert buildings now assume a far greater importance, for we can now see them more closely and so study them as monuments. A monument serves certain needs and is, besides, a symbol. It needs no expansion. With this function of a monument in mind, we can and must study the monument as an introvert building in its own right, an example of which is the new cathedral in Axum, Ethiopia.

So we see that architecture can express the life within itself by growing always from the inside towards the outside. Rodin spoke of the internal forces conditioning the surface of his sculpture, which only covered the forces within it. In the same way, architecture must have as simple as possible a skin, conditioned by the life within it.

Thus, by building human sectors with an understanding of the new requirements of housing and the new requirements of buildings, we can always differentiate the various functions of the elements within our city or our sector and provide the appropriate solutions for them. Housing and buildings must both follow the laws of an expanding synthesis of positive space and be constructed on the basis of well-studied, standardised building units.

This brings us to the notion of construction, where we must remember that we are to be influenced by our changing economy and technology and thus work with an ever-increasing number of standardised and eventually prefabricated elements.

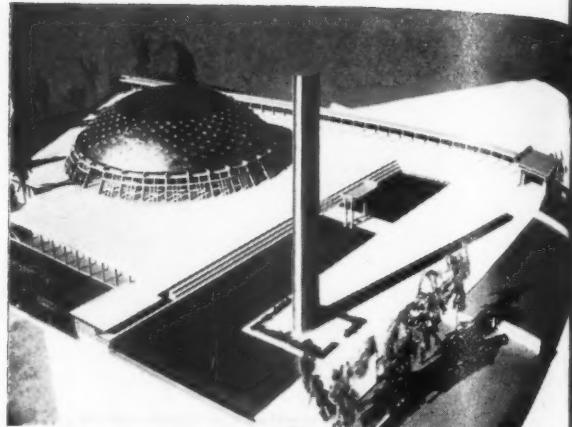
The forces leading us to this view are many. Apart from economics and technology, it is a fact that we are changing over more and more from the heavy materials of the past to the new light materials, and it is equally true that wherever we make this change, we seem to revert to a natural standardisation. This has been happening in Japan for centuries, as well as in other countries producing light materials for local types of construction, such as mats in Bengal. Heavy materials did not lend themselves to such types of construction, but we are now entering an age during which they are gaining more and more ground. But we must not imagine that this applies only to frameworks, that is to say, to timber and metal constructions. With bricks and concrete blocks, too, we can achieve a standardisation which will allow for all kinds of solutions. Such prefabricated elements can serve all manner of purposes and perhaps solve all our problems. We can use them to create either the skin of our building or its internal parts; we can make them take the weight of construction, or simply constitute its surfaces, or even act as sunbreaks, as in this photograph of an Athens home veranda.

Now these notions of standardisation necessarily lead us to the use of a modulus in all types of construction. As used by a person like me, who looks on himself as a mason, such a modulus could be nothing other than a modulus repeated in an arithmetic way. The best unit I could find for the creation of buildings on such a basis was a human unit derived from our footprint. This it is which conditions our floors, which in turn conditions the layout, and it must be expanded to the other dimension of our buildings.

This is a flat in Athens based on the modulus of 2 ft. 6 in., which is the modulus of a step.

I believe that an architecture which turns back to man again has to take much account of the size of our step, because we condition space by walking within it and using it. With this kind of modulus we can create all types of buildings. We can even create furniture, adapting the basic furniture-wall to a variety of needs, with the exception only of furniture intended for seating and tables.

In case we should imagine that prefabrication influences only the architect or that it is a product only of the great industries of Western civilization, I should like to mention that it is, in fact, a very common phenomenon, influencing the arts as well as construction in all parts of the world, as



The Cathedral of Axum is an example of introverted synthesis. Only in monumental buildings such as this may we in our era use this non-expanding conception



Mass production of art is not exclusive to our industrial Western world. This picture was taken in India

well as being a very old process, practised in the cities of Acarnania in Ancient Greece and in the villages of India. A visit to the shop of a small craftsman producing the statues of gods in India or to the shop of another craftsman producing all types of window frames and djallis in Pakistan would convince us of the truth of this statement.

With our minds clear regarding all these principles of an architecture to come, as well as the new solutions we are finding, we must now consider one problem which we have not so far dealt with. We have discussed the requirements of a growing population, of a new economy, of socialisation, technology, changing techniques and changing patterns of transportation, demonstrating the existence of many elements.

Speaking of the understanding we have gained of our new problems, however, we arrived at the conclusion that the major common underlying problem for all the contributory elements was that of the rapidly changing rate of growth which has imposed 'time' on us as a fourth dimension.

We have dealt with our solutions concerning time within the framework of national development programmes, time in *Dynapolis* and time in the creation of our buildings and houses, by proposing a different approach to the synthesis. But what is the real relation of this new dimension to the aesthetics of our proposed synthesis? I think we must assert that time is the essential dimension if we are to have an architectural synthesis in any real sense of the word. Time in architecture means movement. If we stop at one point, then we no longer have architecture but mere scenic design, a theatrical effect. The examples of Ancient Greece and of

Luxor in Egypt are sufficient to impress upon us the importance of the axis of movement.

Architecture means movement. Thus, if we do not take time into consideration, time expressed as motion within a synthesis, then we simply do not have a synthesis but a façade: we have painting but not architecture. In the great ages of architecture, the notion that architecture implies a time dimension was always felt to be true, so that the result of the synthesis compelled man to walk through it, to feel and then become a part of a piece of architecture, and not merely remain outside it as a looker on.

I would like to mention two important examples. There is, first, the synthesis in Ancient Greece, where we can see that man was compelled to walk through a whole complex of buildings and live within it in order to achieve his end. Secondly, I want to mention the synthesis of the masters of the Renaissance by taking as an example Michelangelo's Piazza di Capodoglio. But this principle is also true of real architectural synthesis in every great age of architecture, whether Japanese, Chinese, Moghul or any other great architecture created by man.

This notion of time is perhaps more important in classical Greek architecture than in any of the syntheses I have ever seen, for there it is expressed not only in motion but also symbolically in the form of the unfinished building. There are several elements in the Acropolis of Athens which prove that the architect deliberately left some parts of his building incomplete in order to give visual, material expression to his conception of time as the fourth element of the synthesis. Some of the walls, such as the wall at the entrance to the Acropolis, were never completed, although places were left for them. There is no justification for the argument that the architects of the Acropolis did not have enough time to finish it, as it has been in existence for centuries, with great architects visiting it and putting up colossal buildings all around. The only justification for its incompleteness is that it is a symbol of the time dimension which is indispensable in our synthesis.

THE RETURN TO A UNIVERSAL ARCHITECTURE

Now that we have examined our new problems, as well as the new solutions we have evolved to meet them, we can ask ourselves what road we should take. An old Greek saying has it that, 'The Gods have perception of things that shall happen and men of those now coming to pass, but wise men of those things that be just coming along'. We ordinary men do not know the future, but we can at least foresee tomorrow. We can begin to peer into the darkness to avoid moving erratically in different directions at once and so set the single

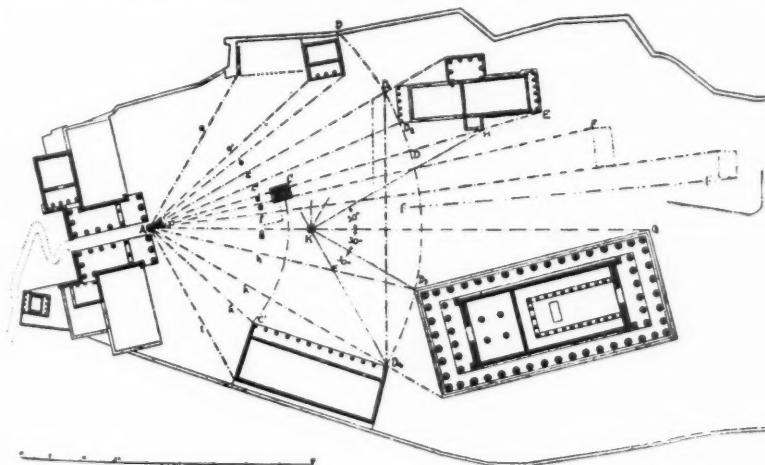
course that is one day to lead us to our ultimate goal. Even if we cannot see the end of the road, we can definitely see its beginning.

A certain number of sound and definite principles emerged from our previous analysis of problems and solutions. One of the most important of these is that for architecture 'visiting time' is over. We cannot look on architectural creations as objects to be visited any longer but must live in them. Not only our houses and buildings but also our squares and roads, indeed the whole space surrounding us must be architecturally moulded. Architecture must not be looked upon as one of the sights of the city, as a monument of the past or even of the present. In the golden days of well-balanced architectural styles, a whole city, such as the city of Athens, shared one overall character, and its monumental places were simply the highest expression of a common architecture. This is no longer true today, and our present state of affairs must not be allowed to continue.

We must clarify our thinking and try to work towards a total architecture. This means a change in the scale of creation. We can no longer limit ourselves to single buildings, and our idea should no longer be to create monuments through which we shall influence their surroundings, but rather to create a total architecture and recreate the whole space architecturally. After all, this is not such a difficult thing to do. The results of our research and thought have convinced us that not only the single house or building, not only the square or road, the sector or the town, but a whole region can follow certain rules of synthesis, rules which we later find to be the same as those in nature.

I should like to mention two examples which have been pointed out to me by a friend of mine, Professor Hassan Fathy of Egypt. The first relates our work for regional plans to the calcospherites or concretions of calcium carbonate, and the second is a comparison of the pattern of community development within a region, with its network of roads, with a dragonfly's wing.

By expanding enormously and conquering space, architecture will be limited no longer to a few buildings as such but will become a real architecture, inspired neither by painting nor by sculpture - it will utilise these arts but not copy them. Just as painting, which is two-dimensional, cannot become architecture by creating architectural depth, and just as sculpture is equally unable to become architecture but must of necessity remain static in three dimensions, so, in the same way, must architecture fulfil itself and be a four-dimensional complex, serving the actual needs of the people in a dynamic, not a static, synthesis. In this way, architecture will again use all its elements. It will need all its dimensions, that is to say, the basic three of height, length and depth, together with the new fourth dimension of time. It will utilise time by allowing people to move in it and by drawing



The lines of vision from the Propylaea (A) to the other buildings on the Acropolis show that the Erechtheion (E) is not a completed building. The eastern wing defined by lines D₁ and D₂ was left missing on purpose.

[Doctor Doxiadis expounded his theory on the Greek City Plan in his treatise 'Raumordnung im Griechischen Städtebau'. A resume in English appeared in LANDSCAPE, MAGAZINE OF HUMAN GEOGRAPHY, Vol. 6, No. 1, 1956.]

people into it. Our architecture will have to use all the elements it can find, even colour, for colour can come back into our synthesis too. Vincent van Gogh once wrote that the painter of the future would be a colourist to a degree he never was before. This will be true of architecture which, evolving on a major scale, will need colour more and more in all its expressions.

The question now arises as to whether architecture should be traditional, contemporary, or futuristic. The answer is simply that architecture should always be contemporary. There is no reason why we should want to imitate the past, nor any reason for us to want to foresee how our grandchildren might want to live; but we do have the obligation and the right to build for ourselves, to create an architecture which will not only be contemporary but will remain contemporary. To achieve this we shall have to think about construction and about our needs. Moreover, we shall have to build our architecture, not design it. In so doing, we shall discover that the more we purge our forms of every inherited element, the more shall we be returning to certain basic traditional forms. It is here that we find the link between tradition and evolution.

In an inscription found in the Palace of Priam at Troy we read: 'Yoked to the past, the future takes on a body and the word becomes substance.' The more we try to clarify our ideas and reach the most basic and essential forms, the more we find ourselves reaching back towards tradition. I myself have recently discovered this in many instances. For example, when I tried to purge the architecture of my own house of everything that was inherited or inspired from outside, so as to make it as rational a dwelling-place as possible, I found myself being led back to the principles of the Eternal Architect, to the forms which are the old traditional ones that created the classical Greek style and the Byzantine style and which can still be seen in Greek villages and monasteries. The only addition I could make was what I call a 'double-skin' - a 'tent' which, in moving up and down, can guarantee to the real skin or external surface of the house all the coolness it requires during the hot season. But this was my total contribution to architecture in this instance.

Working in this way, we gradually realise that we must put aside fashion or any attempt to copy the trends of modernism or any other style. We also realise that we must not turn architecture into exhibitionism or formalism, but must create an architecture which, although contemporary, will yet be fully adjusted to all our needs, and so remain as eternal as the ancient or perhaps as eternal as the future architecture.

We shall be presented with many problems and with many proposals to change some basic forms of architecture. I want to discuss only one of these.

Spherical Houses

There are many attempts being made today to create a spherical house or a shell-like house, and I think that there is a certain amount of confusion surrounding this problem, a confusion that we must try to eliminate. One question that is often asked is whether we should try to develop and use these shell-like houses. My answer is very categorical and it is 'No'. It is certain that cylindrical or spherical houses can find no place in our urban landscape. They do not serve man as interiors, since he lives and moves in space on a definite axis, which he uses for example for his bed, his cupboards, and so forth. We cannot bring such houses within the creation of a rational layout, nor merge them into a horizontal synthesis or repeat or synthesise them in height. The easier construction of a dome is no justification for its indefinite repetition. Primitive man, we observe, started with domes but later abandoned them.

We are told that the justification for constructing such houses is economy. It is true that the designers of such houses do achieve the economy of the shell covering the house, but that is not the real economy at which we must aim. Our

problem is not to create a shell for a single family alone, but to create one for many families. Our aim is not economy in the construction of single units, because this does not condition our general solution. What we must seek is the economy of a total synthesis, by which we mean the economy achieved by a single form repeated indefinitely. Single houses can be neither cylindrical nor spherical nor covered by shells in non-rectangular shapes, for the simple reason that such shapes cannot be interconnected to yield an overall synthesis.

If we try to make a synthesis of such spherical houses, we shall realise that we are creating what is, in effect, a negative space between them. We must not look at space in this negative way, unless indeed we intend to completely abandon the idea of bringing houses together and creating an urban environment, and want merely to distribute them in a wilderness where every house will stand in isolation.

This analysis also holds good where the repetition is intended to take place in height. We can easily demonstrate, therefore, that the only possible synthesis is one of vertical and horizontal, and there is no doubt whatever that it is the building based on vertical and horizontal elements, coming to us out of the past, that is going to survive into the future. On the other hand, while we may be sure that the spherical house is an impossibility, the shell does seem a reasonable solution for some special types of buildings which are not to be repeated indefinitely either horizontally or in height.

We can thus foresee that the future synthesis will be that of an urban landscape which is not based on curves, since these are not indefinitely repeatable, and one in which we cannot expect a revival of the process which led to the Roman, the Byzantine, or the Gothic styles. What we shall look forward to is the construction of large buildings and colossal parts of our cities on the basis of the repetition of the horizontal and the vertical.

We can expect, to be sure, that our future synthesis will demand the use of horizontal and vertical lines as well as curves. Certainly, the basic element of our synthesis will be the low house repeated over large areas, together with the multi-storey building, in conjunction with domes and shells for exceptional buildings. It is not the first time in our history that this has happened, for the Ancient Greeks, facing the same dilemma, were forced to the same conclusion, namely, that they could indeed use the round element in their synthesis but only for special purposes. The curved building is an element of synthesis only if it is between other buildings and not if it has to be repeated.

The time has come to think of the phase of evolution through which our architecture is passing, the phase of evolution usually related to the creation of styles.

In ancient times a style was created by a gradual process of selection and evolution from the best types of houses and buildings being created in a certain area and within the framework of the developing tastes of that area. It was a process that took centuries, but it led to forms acceptable to the whole of society interested in its creation.

This process no longer occurs, and we have already seen that there is at present a large gap between the need for architecture and our actual architectural achievement, a gap which we are trying to fill. But since architecture is no longer in the hands of the master builders, who represented the end products of a normal, slow evolution, but is in the hands of architects who have had to be trained in schools, our architectural questions have, over the last few generations, been decided among the people designing and ordering monumental buildings. During this latter period, there has been no need to create architecture to correspond to the needs of the people, for this movement began at the level of a small class of intellectuals who at different times wanted to see the Ancient Greek or the Egyptian style or any one of a variety of others revived or recreated as the *Art Nouveau* or 'Modern Architecture' of various countries. In those days very few people were in a position to travel or really know what was going on in other parts of the world, and so the excavation

of a tomb in Egypt, for example, could then bring about a revival of Egyptian architecture, whereas today, with our vastly improved communications, we are tending more towards a universal architecture. The result is that this dictatorship of a small group of intellectuals over the field of architecture is now beginning to lose its importance.

The situation has altered today, because the architect has now to build for the masses, creating architecture for everybody and not for a certain leading class alone. At the same time, he has to build much greater numbers of houses and buildings. Thus it is that we gradually return to the age of natural styles. We cannot now impose upon everyone an artificial style – even a good one – which has been created at the top of the cone, but must find some way of serving all our needs which is acceptable to all the people. This can be achieved not by lowering our standards, but by making them correspond to the actual needs and capabilities of the people. Then some day, at the top of the cone, monumental architecture will gradually reappear of itself. Although we shall have to guide our total efforts in the light of a leading class of architects, we shall, in fact, be working from the base of the cone upwards, and this will be the first time that architects will be responsible for consciously creating a style without having first conceived it in the abstract. Styles grew by themselves in the past and were as natural a product of their area as the trees and vegetation. Now we have the difficult task of trying to let a new architecture grow, and we have to do it consciously. What was simply allowed to happen in the past must now be created.

We have defined how we want our architecture to be created and how we want it to grow. We have set ourselves a rule which we cannot ignore whenever we are talking about architecture in the broadest sense of the word, from the creation of styles to the creation of houses, buildings, specific plans, cities, and so forth. That is why I said earlier that many solutions now being proposed for the city of the future and the architecture of the future are unacceptable; they do not represent a normal evolution from our own times.

We must not forget that while progress appears at the top of the cone, it can only spread over large areas and influence our total activity if it is developed in a normal way from the base of that same cone. For example, progress may lead us to the idea of an aluminium spherical house, but if this is not the result of the evolution of our total methods of construction and if the majority of people continue to build in brick and stone, then we cannot speak of having a continuous process moving towards the top of the cone, but only of an experiment in an idiom suited to another environment or another age. That is why we must in every case seek developing solutions, solutions which will have in them the elements of evolution. We must try to find the continuity which relates the simplest to the more highly developed solutions, because only thus can we build a whole system leading to a new architecture which will also be a new style. Every important solution in the past which did not represent a normal development has remained with us merely as an example with no influence whatever on the overall evolution.

Taken together with the other elements of our age, the acceptance of all these principles we have mentioned leads necessarily towards a similarity of solutions in different parts of the world as well as in different kinds of building. These similarities began to be apparent in certain specific kinds of building, as for example some kinds of industrial plants which have to house a standard type of function. A mill, to take one example, could be designed in London and built in exactly the same way in many parts of the world, this being true especially if the climate were similar, and even if it were different, provided that provisions were made for air-heating, air-cooling or even air-conditioning. Then we began building the same type of railway station to house the same type of locomotives, then the same type of garages and the same type of buildings for great ports and airports serving the same ships and aeroplanes. The petrol companies began

selling petrol from the same type of petrol stations, and so the process continued.

The second wave of similar solutions began when materials produced in one country, such as prefabricated doors, windows and panels, began to be sold in another. We even witnessed prefabricated furniture leading to a similarity in types of interior furnishing and decoration. Later, with the growth of communications, we had the spread of fashion – a fashion conceived in one part of the world being able to influence other parts through magazines, books, films, television, and so on.

Finally, we had the universities of the highly developed parts of the Western world producing architects, who thereupon spread throughout the world. They represented a fourth force leading to a similarity of solutions.

There was, of course, a justifiable reaction to all this, for buildings could not be the same irrespective of climate, locality and local traditions. The people who had learned the new approach in the Western universities were simply mimicking the solutions worked out at their universities and were not adapting their approach to the new environment. Many mistakes thus arose, and we have seen and may still see many buildings throughout the world which fail to serve the people at all because they have been transplanted from a different country and a different environment. In the same way, we had many universities still working in the tradition of the big monumental buildings designed in a modern way, or the architect accustomed to the design of large hospitals and administrative centres transferring the same approach to a problem in housing in areas inhabited by low-income groups. These projects naturally failed.

Two movements thereupon came into conflict: one that, due to mechanisation and standardisation, was leading to a similarity of solutions, and the other, opposing it, constituting the reaction to this similarity of solutions, for these were being imposed irrespective of climatic and local considerations.

But this idea that we must find different solutions within the same framework, even though the elements are the same and the conditions begin to be the same, requires some clarification. Personally, after having worked in some 15 different countries and having tried to give expression to my ideas in as local a manner as possible, I must confess that I was very often led to similar solutions regardless of what country I was in. Everywhere I went I tried to develop the local styles and to explain that architecture must not be imposed but should grow like a young tree in the local soil and sun. I tried to emphasise that architecture must grow over the generations from the seed that we place in the earth into the sturdy and stately tree we want it to become. I still believe that, but I often found that the plants persisted in showing many similarities, despite my wish to plant a different seed at each place. There were many forces compelling me to adopt similar solutions, so that, although I started every time with the ardent desire to be influenced only by the locality – and was so influenced – yet still I could not forget some major factors which are bound to influence architectural creation in the future. Thus, I found myself offering related solutions to different problems in places as far apart as Pakistan and Greece, Philadelphia and Iraq. These solutions might look different to the inexperienced eye because they varied in some aspects, but they were, in fact, substantially one and the same solution. This suggests that there is an inevitable similarity of solutions in our age, although these may be expressed differently, for a house in Bagdad may and does certainly look completely different from a house in Greece or in America.

When I was confronted with this situation, I had to answer an important question. I said to myself, 'I am often tending towards similar solutions. Should I try to be different?' I came to the irresistible conclusion that I had no right to be different where the conditions themselves impelled me to remain the same. We should not be afraid to express ourselves in the same way and repeat something that is good.

After all, the doctor is not afraid to use a medicine because it has been used before. We are not afraid to build walls using identical bricks, nor do we keep to the old polygonic system of the walls of Delphi. We can equally well build beautiful or ugly walls with the very same bricks – the important thing is the kind of bricks we are using and how we use them.

In this way, however, we are moving towards a uniformity, and people might anxiously ask whether such a uniformity of solutions might not lead to a uniformity of houses and therefore of appearances too. This is definitely not inevitable. We have the obligation to be true to ourselves and the obligation to build in the best possible way every time, without trying to be traditional or academic, but also without trying to be 'modern' and without trying to discover something new in every case.

Let us turn our minds back to other periods of history when people were producing on the same patterns. I turn first to Ancient Greece. Classical Greece had one style for several centuries, but we never speak of a uniformity of appearance there, for we never feel one. The primitive Doric style certainly had its canons; yet every temple was a piece of art in its own right. Although the simple houses had approximately the same plan throughout Greece, they were still not uniform. The same is true if we turn to Egyptian art. The Egyptian craftsmen were working on the basis of canons imposed on them by the priestly caste, but this does not necessarily lead us to say that they produced a standardised art. Do we not find any piece of Egyptian painting or sculpture equally interesting? It was the same in Byzantine times, when the monks painted according to the very strict canons of the age and of their religion. Yet, is not every piece of true Byzantine art a real piece of art?

I am not in the least worried by the fact that we are thus being led towards a similarity of solutions, providing only that the solutions we find are beautiful in themselves, but I am very much distressed by the ugliness so often foisted on us in the name of liberty. A synthesis may be good or bad regardless of whether it is, in fact, using the same or completely different elements.

I will mention just one example to show that we should not be afraid to have a similarity of solutions, a similarity of rhythms underlying our syntheses. We are now tending towards standardisation, and this leads to the rhythmical repetition of an identical pattern of construction. We need not avoid that just because it is rational, nor need we avoid building whole cities on the basis of one and the same modulus, a modulus which is to underlie the town plan, the layout plan, the plan of the plot, and the formation of the building itself. We are not entitled to avoid this, for we are bound to follow a logical pattern of rhythmical repetition. Such a repetition is necessary for the rational formation of many parts of buildings which require it, such as schools, hotels, hospitals, and houses. It is also necessary for the improvement and standardisation of construction, as well as for prefabrication. Finally, it is necessary, although not indispensable, from the aesthetic point of view as well.

Where is the repetition of the classical Greek temple, the Italian palazzo, the halls in the Red Fort of Delhi, or the dome of the Sistine Chapel leading us? Why has Michaelangelo kept to a rhythmical repetition when he could have given his subject other solutions and developed it in a much more independent way? Whenever I think of this, I am reminded of the advice which our great Palamas gives to the craftsman:

'Hand bound, imagination bound,
The artisan carving the image of God
To the priest's dictates,
Swaddling it in the traditional way,
Still finds some place to lay
His own heart's love for it, the image,
So that making your obeisance
You yearn towards it that way, O people,
That way worshipping before it, O people.'

Here we must ask ourselves another basic question. If we are being led to a similarity of styles, are we not thereby, of necessity, also being led to a universal style? I think we must frankly admit that we are; that is to say, we are being led not only towards a similarity of solutions but gradually to solutions which are themselves basic to humanity and not bound to a particular locality. One fundamental reason for this is the socialisation of architecture. So long as architecture was limited to the desires and styles of a ruling class, whether its proffered lead was intellectual, administrative, or of any other kind, architecture was still quite able to express the desires of such a class in its own particular isolated society. But now that the boundaries between cultures have been broken through and we are being drawn together towards a common culture, architecture must serve all classes of people everywhere. People are basically the same, and so we are gradually being led to a universal style through trying to express our architecture in the simplest possible way in order to be able to serve everybody.

In coming into closer contact, people can gradually find the best solutions in conception and detail, not through a copying of forms but through a gradual selection by the many. This selection operates in all directions, as for example, where the West in many respects now follows the style of the Moghul screen created centuries ago, or the Japanese methods of prefabrication of panels and of construction, or even the Japanese conception of the garden. It is through such principles of gradual selection that we are led to universal solutions.

These examples remind us that the influences at work do not always necessarily radiate outwards from the central framework, embracing the Western universities, towards the other countries. We must remember that a shrinking world has drawn people together, so that while the less developed countries are the recipients of the experience gained in more highly developed countries, the latter also gain from their less experienced brothers. People are now opening their eyes to solutions which are considered very modern in the Western world but which are already very old in the East.

For example, as long as the colonising forces of the Greeks, the Romans or the British were imposing Greek or Roman styles on other countries, there was no real relationship between these styles and the people, and, as they had no roots, they failed. Now there is no longer any question of imposing styles of any kind on anybody, and people everywhere are selecting for themselves. We are thus gradually absorbing into our thinking solutions which are age-old. A good example would be the solution of the semi-enclosed space, which is an ancient tradition of the Indian peninsula and of other countries, as this wall from one of the Red Forts of India shows.

The idea of the creation of a universal style poses yet another basic question. Did man ever possess a universal style in the past? I think we must assert that he did. He may not have been conscious of it, because it existed at an early stage of his civilisation, but it did exist. In fact, it still exists throughout the countryside of many, if not all, countries. If we examine simple houses in Pakistan or India, in Venezuela or on the Mediterranean, we shall find that they look the same and no expert can distinguish between them. For example, the column shown in this photograph is considered to be of the type which led to the creation of the Ionic style in Greece, but it was taken in Pakistan, thousands of miles away.

The Universal Human Style

Protracted journeys through many countries have convinced me that at the beginning of every civilisation there existed the same style. It was the different types of civilisation growing up in different centres that led man towards local expressions of art, these expressions differing from area to area as civilisations developed more and more independently and in

isolation from one another. The Egyptians, Greeks, Romans, and lately the British, certainly attempted to impose their own styles on other people, but, as these styles were imposed from the top downwards as official styles, they never took real root in foreign countries. We are being led back to a style which will be universal because it will be basically human and because the whole of developing civilisation is tending to similar patterns.

We must not be misled by the fact that some intellectuals, rightly or wrongly, are bound to conceive of alternative solutions, because, if these cannot spread so as to control the whole core of human creation, it will be impossible for them to take root and influence architecture as a whole.

Architecture cannot be the brain-child of the few. It will have to be, indeed it must again become, the brain-child of humanity. This is because, irrespective of technological evolution and special solutions for specific cases, we are going to have an architecture which will grow out of the earth, and because the same solutions will be repeatable on a large scale only under certain circumscribing conditions. Firstly, they must be acceptable to all people in all countries, a condition that becomes more difficult as evolution progresses everywhere, since, as people become more and more awake to their needs and rights, they are less apt to be influenced by imported solutions. Secondly, the solutions must also be practical enough, economical enough, and basically good enough to serve the broadest masses of the people. In this respect, we must add that real architectural evolution will, in fact, depend more on the rate of increase in the income of all the nations of the world than on the ability of a few to conceive highly developed monumental or economic projects.

The top of our cone is going to be sound only if it rests on solid foundations, drawing its strength from the base of the cone. I think it is certain that the new universal human style is going to be conceived at the top of the human cone, but it will only prove successful if the ideas coming from the top are reflected to the bottom and then reflected back again by everybody concerned.

If this universal human style is to survive, it must not be limited to the mental or economic capacity of the few. It must have a broad basis or it will remain without roots, just as the other styles have remained which were imported. The styles that were able to survive over long periods in specific areas were those that were well and deeply rooted in the soil of their country, as was the case with the styles of classical Greece, Renaissance Italy, and Japan. With such a universal style we can create an architecture which will be human and universal in its conception, yet local in its expression, like this big Academy in Bengal, consisting of many elements which could be considered to come from other countries, but which were born within the locality and represent a true architecture.

Now I feel as though I were back in the dark circus from

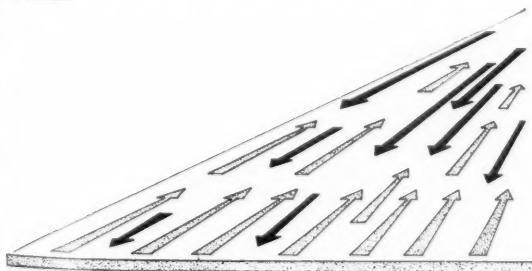
which I started to grope about and try to find my road. After 25 years of wandering about the world and working for many peoples, I find I have an obligation to follow only that road ahead of me that is not obstructed and cluttered up with monuments, a road whose largest shadows will be cast for many years to come by simple, plain, human buildings. I have learned to be able to visit not only other areas but other times as well. I have been enabled to turn back the clock of my mind 3,000 years in the swamps of Iraq, thousands of years in the delta of Bengal, many thousands of years with the Nomads of the desert, and centuries with the settlers of Australia and America. I have been enabled to see how people live and to understand their problems. I have thus learned to see the evolution of architecture.

Let me state yet once more my simple creed. I believe that we live in a formative age, an age in which we are to be faced with difficulties and problems in architecture as never before. I can now see that the road ahead of us leads through deserts and over rocks, but I can also see that it is a road that may lead us into beautiful sunlit valleys. We must understand that the solutions we seek are not only to be found in the centres of civilisation; they are to be found everywhere, because the roots of this magnificent tree we want to plant and see growing and maturing will have to draw their nourishment from all parts of a developing humanity.

We need to understand that the architect cannot survive as a designer of single buildings, much less of monuments, but only as a co-ordinator of architectural activity – in a word, as a master builder. I say he must be the designer not of buildings but of ways of living. He must be a man able to understand that the forces to be found in a tent in the desert or a hut in the swamps or a factory in the busy hive of industry are sometimes greater than those to be found on the highways of a great metropolis or in the studio of the architect himself. He must be able to feel himself a mason whose task is to build contemporary buildings and prepare himself for a universal architecture, an architecture which needs to be contemporary and human now in order to become universal, not in one leap, but one day in the future. He must have patience. He should not think that our generation is THE generation of architects, that we have been put on this earth to give THE final solutions and create THE style of our era in one generation, when it took humanity in the past centuries to develop a style.

He must be a man able to work the long day through, bent double under a load of bricks and mortar and stone and steel, laying foundations, carrying out research, becoming a scientist, becoming an artist. But he must be a man able, when evening falls, to leave his work site and climb some high rock, there to gaze out to the horizon of a rising world whose dynamic evolution will lead to a dynamic architecture. If the architect is able to be all this – a mason in his work but a dreamer in his ideas, then he may be able to help us found the architecture of a world to come.

Ideas should be kept on a two-way flow, from the individual craftsman to the top designer and from him back again to the craftsman



Correspondence

The Editor, RIBA JOURNAL

ARCHITECTURAL EDUCATION

Results of a Questionnaire Sent to Over 1,000 Members

Sir.—Before dealing with current or future aspects, it is necessary to briefly review the printed comment that has been available to ordinary members in the JOURNAL.

April 1959: An announcement that the Council had adopted a recommendation of the Oxford Conference (April 1958) that the standard of entry from September 1961 be five subjects in the GCE examinations which would include English, Maths., or Science and two 'A' levels. It was stated that 'the decisions on the other recommendations of the Oxford Conference will be made available as soon as possible'.

May 1959: Letter from G. L. Thompson, '... does the profession as a whole really believe that higher academic standards will ensure better Architects for the future?'

July 1959: Letter from C. G. Percy, '... the profession relies to a very great extent on men trained in offices and part-time schools — men who are unlikely to be able to stay on at their schools and take "A" levels'.

August 1959: Letter from E. B. Redfern in support with a forecast, '... that the background of good sound assistants would eventually disappear'.

November 1959: A report on the Oxford Conference was published with a statement that 'the Council at its meeting on 6 May 1958(!) approved in principle the following recommendations of the Oxford Conference'... This is the report which contained the conclusion... 'that the demand for RIBA External examinations will be progressively reduced... and possibly abolished'.

December 1959: Further letters of objection, putting forward some of the dangers of forming separate categories of Architect (the 'two-tier' system).

January 1960: Letter from Alan Miller suggesting reconsideration.

February 1960: Letter in defence of the proposals by The Chairman of the Board and letters of objection by L. A. Hendry, W. R. Hazlewood and J. B. Tunstill.

March 1960: Further letter from C. G. Percy pointing out discrepancies in the Chairman's reply and a letter supporting the Board by I. W. and B. Crawford, saying 'The aim of the schools is to produce students who look upon architecture as a way of life, rather than a means of earning a living'.

April 1960: Two letters of objection from C. Fleetwood-Walker and F. Potter.

Before this date, I had reached the conclusion that the Board were unlikely to adopt my suggestion to hold a ballot and decided to send out a Questionnaire myself. This was sent to over 1,000 Members individually and to each Association Secretary. Over 340 replies were received, including some with over a dozen answers each from some of the Local Associations.

ARCHITECTURAL EDUCATION

Do you agree with any of the following proposals or opinions?
Please state Yes or No (or leave blank if doubtful).

	YES	NO
1. The standard of entry should be raised to two 'A' level passes	52%	35%
2. The existing requirement of five 'O' level passes including English and Mathematics is satisfactory	37%	42%
3. The only essential passes are 'O' level in Mathematics and English, provided the ability of the Student is highly commended by two Members	12%	67%
4. The qualification standard is more important than the standard of entry	63%	17%
5. The present requirements for Testimonies of Study are satisfactory	23%	33%
6. The simpler Testimony requirements of the 1930's should be re-introduced	13%	49%
7. Testimonies of Study should concentrate on artistic matters	15%	54%
8. More practical Testimonies should be introduced	51%	13%
9. Similar Testimonies should apply to all, irrespective of the form of Architectural Education	63%	17%
10. Qualification should be only through the Schools with their own examinations	19%	67%
11. Qualification should be either by the Schools or externally as in the 1930's	60%	25%
12. Qualification at both Intermediate and Final level should be only by one standardised examination for both school-trained and office-trained Students	74%	14%
13. The RIBA should concern itself with only one qualification which would entitle the Applicant to become an Associate and call himself an 'Architect' when registered	55%	27%
14. The RIBA should have a new Intermediate standard entitling the successful Student to call himself an 'Architectural Technician' (or similar term)	45%	36%
15. If there is to be a separate class of Technician or Technologist, it should not be organised by the RIBA	31%	44%
16. Design and construction should be taught and tested as separate subjects	20%	55%
17. All future examination tests should ensure that the Applicant is capable of doing complete working drawings as well as designing a popular type of building likely to be encountered in practice	91%	2%

Any suggestion?

Name (optional)

Contributions totalling £22 13s. 6d. towards the cost of the ballot were received from more than 50 Members. They varied from £2 2s. to a 3d. stamp, and have meant that most of the cost has been covered. Personal time and secretarial time has been ignored, and printing and postage costs were £24 17s. 1d. In May 1960 I attended the Annual General Meeting to refer to the first results and to ask the meeting to defer implementing the two 'A' level entry and to approve a less biased membership of the new Board. The vote went against my resolution.

There has been and will be many criticisms of the Questionnaire. It is the work of an amateur; it is unreliable; the questions beg the answers, etc. All this can be assumed by the critics, but the facts are that it asks pointed questions on vital aspects of Architectural Education and that members didn't have to reply at all. They could leave out answers if they were

doubtful and were perfectly free to answer either 'Yes' or 'No'.

The questions and results are printed above and critics should note that, although analysed in batches of 100, there was such a consistency between the batches that the majority was the same in all cases. The Questionnaire was actually sent to five members on each page of the *Kalendar* and the only selection was to spread it over the age groups, and generally avoid overseas members. Members not only answered the questions they thought were important, but over 120 members sent comments and suggestions.*

Having spent much time on this investigation, it may be expected that the author would reach firm conclusions. Those given below were not the writer's original views when the investigation started, nor

* A selection of the comments were included with Mr Redfern's letter, but have been omitted for reasons of space. It is hoped to deal with the points raised in them in the next issue. — Ed.

will they be unanimous, but a genuine attempt has been made to pick out principles favoured by the majority of members concerned, and there is no known reason for assuming that the results were not representative.

Conclusions and Suggestions: Those who would like to see the two 'A' level entry and those who would be satisfied with five 'O' s for entrants who have to leave school at 16 or 17 (subject to a statement by two Members [after one year's pupillage], that they believe the entrant has the necessary outlook and ability). All school students also to be weeded out after first year and to require a similar Certificate. In both cases weeding out to be firm and the final decision to admit a probationer to lie with a Selection Board - (who would gradually be able to compile a list of firms or schools who made good or bad recommendations).

This compromise should clearly receive majority support as the entry standard would be raised without slamming the door on the bright late starter, and without squeezing out a valuable supply of keen assistants. On the other hand, it would really be a *kindness* to weed out entrants who do not show promise after one year. A clear majority of members are more concerned with the *qualification* standard and the Board should then set about ensuring a raised Inter-standard. The present testimonies and their predecessors find little support and more *practical* testimonies would clearly be supported by a majority. Furthermore, there is little doubt that most members believe school students should go through the same hard technical programme. It is suggested that a new set of technical problems be set to ensure that students or assistants, between probationer and Inter-stage, really know how buildings fit together, how to keep out gales, how to prevent or avoid cracks, the relative cost of basic materials, and how to be good, useful assistants without helping to perpetuate most of the blunders that bring adverse comment on the profession.

There should obviously be *some* design at Inter-stage and fresh thought must obviously be given to extending good design tuition to the external student, such as by 'sandwich' courses, day release classes, travelling tutors and interchange of tutors with the 'lesser' schools.

It is suggested that there would be a raised standard if these basic principles were applied with the minimum period of training raised from three years to four years and with most of it spent on acquiring 'know how' rather than 'airy-fairy art'.

Between Inter- and Final-stage, it is obvious that a student must be allowed to 'let his hair grow' and practise design as far as one can in a two- or three-year course. But the clear opinion of the majority of Members is that design should never be taught without one eye on construction and students should face the design and construction problems of buildings encountered in practice, rather than indulge in whimsical fancies. The present-day methods at this stage, only need developing in *detail*, but criticisms will always be levelled until the examiners are able to give adequate criticisms to students who are failed. This is one of the most difficult questions to be resolved

because of the wide differences of *opinion* within the profession. It is suggested, therefore, that the examiners should concentrate on technical fact, rather than design opinion, and not hesitate to condemn any student (or member) who flounders on sound construction when indulging in spectacular design. This is a matter affecting 'status', as nothing does the profession more harm than scurrilous comment by clients, committees and builders on the subject of buildings that crack, or leak like sieves.

Another important point if assistants (and principals) are to improve their income is that greater attention should be given to the 'business side' of architecture - contract management, specification writing, estimating, and even letter writing.

Whilst the schools have obvious advantages for students studying for either Inter or Final, there should be no attempt to condemn other methods. The other extreme is the lucky and industrious student who finds himself apprenticed to a first-class firm, with a busy modern practice and a number of enthusiastic principals willing to give their advice. In such cases, it might well be that *no* school tuition is required to produce a first-class architect.

One other notable majority opinion from the ballot is that the same examination should apply to *all* entrants, irrespective of their type of education. Too often the exemption policy has produced the wrong results and examples can be quoted of easy passes at school examinations that can only result in a lowering of the standards of the whole profession. The advantage will obviously lie with the student who can do full-time study at a school and there should be no exemption whatsoever, from the *one examination* rule. It has been said that the schools will promptly boycott the RIBA and any school which did so should not be dissuaded. They can still award their 'Dip. Arch!', or 'B. Arch!', and a few students who took only those qualifications would have abilities of a type that might well fit into the profession.

No mention has been made of the 'two-tier' profession and it is only clear from the ballot that members are divided on this issue. A personal view is that, if a lower tier is recognised by giving them a 'title', there will be a dangerous tendency for the lower tier to be *enough* of an Architect for the average Client. This could be disastrous for most members and leave only an exalted few to enjoy the upper tier.

It might be reasonable to allow those who pass a raised Inter level to call themselves 'Bachelor RIBA' or 'Technician RIBA', but why not stick to 'Student RIBA' and ensure that they and their prospective Clients know they are still in the 'Learner' class? It is also clear that Registration should be denied to anyone who has not been through the full examination syllabus, and had at least two years as a responsible assistant.

The subject is too complicated for an easy answer to be given to all queries, but if the new Board of Architectural Education really want to improve the status and income of the profession, they might well find much food for thought in the opinions of members arising from this questionnaire.

Yours faithfully,
E. B. REDFERN [4]

Comparison of Professional Incomes

Dear Sir, - Regarding the letter from John C. Parkin, headed 'Comparison of Professional Incomes' (June JOURNAL), it should be pointed out that a great percentage of architects from the United Kingdom in Canada today come into the salaried category.

Although the situation may vary between Ontario and British Columbia, the status of the salaried architect here is very different to that described by Mr Parkin. There are many competent architects in Vancouver today who are working for wages considerably lower than those of tradesmen and there are many more who work knowing that their employment is likely to be of short duration since architects are frequently hired for a particular project and when this comes to completion the employment is terminated. Although this situation prevails in many smaller offices in Vancouver, no reflection is intended upon individuals since it is apparently a result of the general employment and economic situation in British Columbia today. Intending immigrant architects should fully realise this.

The architect from the United Kingdom arriving in Vancouver must seek work by visiting the offices of established architects since advertised positions are practically unknown due to the supply of assistants greatly exceeding the demand. Any work obtained is likely to be of a temporary nature and the salary, as mentioned above, will almost certainly be very much less than that of a tradesman.

This situation is very difficult to equate with 'the high value and status enjoyed by *all* architects in Canada today', as mentioned by Mr Parkin.

[The above letter bears the signatures of 13 architects of whom eight are Associates, RIBA. Many of them are salaried architects employed in private practices, and the Editor has therefore agreed to their request to omit their names.]

New Format of the Journal

Sir, - Doubtless, in these changing times, a new design for the cover of the JOURNAL had to come about; but surely, when decision was made to dispose of the very beautiful lettering on the old cover, some word of regret was due to the memory of Eric Gill who executed it. And surely any design for the cover should be at least as appealing as the old, both in general layout and in design of the lettering. Can anyone pretend that this desirable end has been attained?

For one thing, the new cover has a generally untidy appearance. This is due to the lettering not aligning correctly either with the top of the cover or with the photographs; also, when a white strap has been used alongside or below a photograph, its width end for end has been unequal. It may be argued that the double printing which is necessary makes it impossible to get these things right. What is certain is that in designing the new cover, vital matters such as these should have been considered. This is an example of poor detailing.

Again, although block lettering may be desirable for use on the cover, so as to conform with a prevailing fashion, it

should be consistently used. That is to say: where block lettering is of a wide type (as this is) it is usual for the individual letters to be wide throughout. In this lettering (presumably, so as to save in the length of the title) the widths of the 'J' and the 'L' have been curtailed, and the lettering loses in character consequently. Probably for the same reason of saving in overall length, the full stops have been omitted from RIBA. Where is there advantage in this – apart from following a present fashion?

Poor detailing of the lettering is seen in the letter 'A'. The left leg of this letter is distinctly wider than the right; and the slope on the right hand is steeper than that on the left. These features condemn the lettering as being unworthy of its position on the cover.

Another matter that calls for comment is the size and character of the type giving the date, etc. The type is small and mean, but so as to draw attention to it, the use is made of a slab of colour superimposed upon it. It reminds one of a child's transfer. How can the adoption of this crude fashion be defended?

Lastly, there is the Badge on the title page to consider. Apparently, no official explanation has been given as to why the original badge has been discarded. In this instance, also, a word of appreciation in memory of Eric Gill was called for. Even in these modern days such courtesies are to be expected.

Once again, if it is necessary to have the badge re-designed – should the new not be at least as good in conception and execution as the old? Devoid of title or motto, this new badge is meaningless; if separated from the JOURNAL, it might equally well appear as a grocer's emblem on a packet of tea. Its slick and poor draughtsmanship can only be described as deplorable.

What will discriminating people think of the RIBA as they note this lack of careful design, the untidy alignment, the poor detailing of the lettering and the poor draughtsmanship of the badge? Can we blame them if they consider this expression of the new spirit at Portland Place as indicating decline rather than advance?

Yours faithfully,

DOUGLAS B. ROBERTSON [L]

Dear Sir, – I do not like either the format of the RIBA JOURNAL or the *Kalendar*, particularly the latter since, quite apart from aesthetic consideration, it fails functionally. It won't even go into a normal book-shelf! One way in which the JOURNAL might be improved is to state for all to see the place and subject of the outside picture.

HUBERT FENWICK [A]

Respecting the wishes of the designer of the cover, the subject is given each month in a paragraph in 'RIBA Topics', under the heading 'Cover Picture'. – Ed.

The Architect's Job

Dear Sir, – Well done Mr Parry, and hearty congratulations on getting in two 'what the devils'. I've tried a few times, also in letters to the press, although I usually say 'what the hell', but I've never managed to get it into print.

'What the hell' is perfect, it should be the architect's pet remark in dealing with

all these other half-informed people who don't show the architect the respect which is his due because of his superior knowledge, and used frequently when talking with Local Authorities who have never heard of rockets, and the terrific changes they are going to bring about on all things – especially buildings. 'What the hell' is also the perfect remark for comment on a lot of the tripe being built today, and its silly little part in what should be something of national importance.

Away with medals for single buildings! and all the silly speeches. Will the building help us to keep up with Russia, China and America? That should be the yardstick. To hell with its purpose in making individual profit, and squeezing out the small shopkeeper. Come to think of it by the time China is streamlined this country will look like China used to be, which I think is perfect; at any rate until everything is nationalised which is the only sensible solution.

Keep it up old boy in your daily life.

This is the only letter you'll read in like vein though. Don't waste any more time on correspondence.

Of course, you'll never build a practice if the average client, and the listeners in the background, other than ex-fighting soldiers, hear you say 'what the hell' or 'what the devil'. People in this country today are very careful how they speak, and most people who do work up a rage about matters mostly live in another district. Nobody really cares.

Excuse me now, I must press on with my design, for what is important, a garage.

R. A. MCLEAN [A]

Dear Sir, – It is unfortunate that a letter from G. H. Parry [A], printed in the August issue, twice contains the expression: 'What the devil' (5th paragraph).

I do hope that care will be taken to avoid expressions of this kind being printed in the JOURNAL.

Yours faithfully,
DOUGLAS B. ROBERTSON [L]

Book Reviews

Concrete: The Vision of a New Architecture. A study of Auguste Perret and his precursors, by Peter Collins. 10 in. 307 pp. + 104 plates. Faber and Faber. 1959. £3 3s.

That Auguste Perret was one of the greatest, as distinct from the most publicised, architects this century has so far produced would not, I think, be denied by any critically informed observer. Nevertheless there are few such people – perhaps, to judge from his concluding pages, not even the author of this thoughtful *apologia*, who would be prepared to go the whole way with Perret: and, for the majority, Professor Collins's just assessment of the state of architectural opinion in the nineteen-thirties remains generally true in the sixties: 'Those who still adhered to a brick and masonry tradition disliked his use of bare concrete and lack of ornament; those who liked bare concrete dismissed his buildings as pseudo-classical *pastiche*; thus, having apparently one foot in each camp, he was heartily despised by both.' As for those who would agree with Professor Collins that the adherents of either camp 'were both fundamentally anti-rationalist', or, to use the language of *1066* and *All That* that both were, and are, 'Wrong but Wromantic', this minority may still, for all his advocacy, find themselves bound to confess that much of Perret's work is to them mildly 'Repulsive' without at the same time being altogether 'Right'. In fact, the question that persists in the mind, when one reaches the last page of Professor Collins's well-documented and aptly illustrated book, is: 'What went wrong?' It is a tribute to his painstaking scholarship that those who do not entirely share his views may yet find, in his pages, evidence that may provide a possible answer to this question.

With this end in view, any reader whose soul is not stirred by the mention of such names as Coignet, Tall or Hennebique, or who does not relish quotations *in extenso*

from the ephemeral productions of architectural journalists or from discussions at meetings of professional societies, would be well advised to skim lightly through the first and second parts of the book, entitled respectively 'The Discovery of a New Material' and 'The Search for a New Architecture'. Whilst they faithfully record the principal stages in the development of reinforced concrete as a building material, together with the accompanying comment at each stage, they do little to expose the deeper compulsions that led to its exploitation, and so lack the intellectual interest that is evident throughout the third part, 'The Contribution of Auguste Perret', which is obviously the part Professor Collins wanted to write.

Here we are given a brief account of Perret's birth and upbringing, of his training at the Ecole des Beaux Arts and his apprenticeship in his father's business as a building contractor for which he and his brother were destined from the first. This last circumstance prevented his taking his diploma and so deprived him of the right to the title of architect, whilst at the same time fostering that independence of outlook which was one of his most striking characteristics.

Having dealt with the apprenticeship period Professor Collins, before passing to his work as a *Constructeur*, provides us with what must be regarded as the most authoritative exposition of Perret's theory that has yet appeared in English, and it is here, if anywhere, that the answer to the question posed above may be found. An early influence, we learn, was the *Dictionnaire Raisonné* of Viollet-le-Duc, which Perret absorbed as a boy, with the result, as Professor Collins says, that '... Viollet-le-Duc's idea of the primacy of construction could not but orient and condition his whole mental outlook, giving him that *esprit* or *habitus* as the Greek and mediaeval philosophers called it which was to guide his speculations in the future'.

Next in importance came the influence of Auguste Choisy, whose development of the Vitruvian theory of the evolution of the Greek orders as 'translations' into stone of forms belonging originally to timber construction had a peculiar fascination for Perret; and whose statement that, in that evolution '... la forme a été le point de départ; et la structure, loin de lui avoir imposé ses exigences, ne s'est mise que lentement en harmonie avec elle' would appear to be in direct opposition to Viollet-le-Duc's theory of the primacy of construction. Nevertheless, if Professor Collins accurately reflects his views, Perret seems to have found room in his theory for both ideas, and to have arrived at conclusions regarding the nature of architecture not altogether justified by the evidence, as that, for instance, 'the essential nature of architecture was that of timber construction' - a view that is strangely fathered on to Vitruvius - or that 'for the classical architect, whether he be a 1st-century Roman or an 18th-century Frenchman, the natural expression of a wall was that of a frame with a non-load-bearing infilling'. Such statements indicate, surely, a selective, even a prejudiced, approach to classicism. To say that they lack universality is perhaps only another way of saying that they are unclassical.

The reason for Perret's selective, and therefore imperfect, approach to classicism is not far to seek. Whereas Vitruvius had said, with regard to walls, that the materials of which they were to be built or faced were not to be pre-determined, Perret seems to have decided, almost at the outset of his career, that reinforced concrete was the modern material, and therefore the only basis for the development of a truly modern architecture. What led to this momentous decision is not made entirely clear by Professor Collins. Certainly it is not to be attributed to the influence of Julien Guadet who was in charge of Perret's atelier until his appointment as Professor of Theory at the Ecole des Beaux Arts in 1894, and whose own attitude to architecture was pre-eminently comprehensive. Although Guadet always insisted that architecture was the art of *building* - 'Sans construction, point d'architecture', he warned his students - he was equally insistent that construction was a means to an end, and not an end in itself, yet the idea that structural methods and materials provided the guiding force in the evolution of architectural forms was widely prevalent in the early years of this century, and its hold on Perret may possibly be a result of the impression made on him at an early age by his reading of Viollet-le-Duc, who declared 'Give me a structure and I will find you naturally the forms which should result from it'. Was this, perhaps, the source of that *idée fixe* regarding the virtues of bare concrete structure which dominates Perret's architectural work?

Whatever the answer it is easy to see how consideration of the design of the timber formwork (as a contractor, Perret perceived that this was the essential problem in the design of reinforced concrete structures) led him to seek inspiration in the architecture of the 17th century in France, which, like the Greek orders, he considered to be a translation of wooden prototypes into terms of stone. What is not so clear is why, having experienced

the consequences of a rigorous adherence to his theory regarding the use of bare concrete, he steadfastly refused to follow the example of the Greeks, or, for that matter, of many of the mediaeval builders, and cover an inferior structural material with a facing of fine stucco or other rendering. It is not as if he was not aware that, as he himself put it, 'L'architecture n'est pas dans la matière; elle est dans l'ordonnance'. After all, it is the Théâtre des Champs Elysées, faced, as it is, with marble, that remains his most agreeable building.

As for the *ordonnance*, was it the tyranny of his (or Viollet-le-Duc's) puritanical theory that a new material should produce a new architecture (it could scarcely be the fear of being accused of lack of originality) that made him ignore the rhythm of his structural bays in the spacing of his windows, or led him to diminish his columns downwards in inappropriate positions? Whatever the reason, the results, as seen for instance, at Le Havre or Amiens - undoubtedly the most distinguished recent works of town building in Europe - are sadly disappointing in their air of conscious and uncompromising rectitude. At Le Havre particularly, Perret and his collaborators created a real town, but they seem to have dressed it in clothes that do not fit - contrived seemingly to suit a system of production rather than to grace an individual body. They have followed a formula, or, to use the term adopted by Professor Gombrich in his *Art and Illusion*, a schema, without adjustment to the particular context. This, in Vitruvian terms, is to say that the new Le Havre has *symmetria*, but lacks *eurythmia*, the appearance of graciousness: a mature classicism requires that an abstract *symmetria* be transformed into a sensible *eurythmia*.

W. A. EDEN [F]

From Baroque to Rococo.

By Nicholas Powell. 10 in. 184 pp. + 129 plates, etc. Faber. 1959. £2 10s.

With his *German Baroque Art* in 1927, Mr Sacheverell Sitwell was the pioneer in bringing this inspiring phase of art before the English reading public. Eleven years later, with his *German Baroque Sculpture*, he was still a pioneer. Now the position is very different.

There is a spate of books on the subject, and Mr Powell's is the latest. It is also probably the most comprehensive.

Within the scope of the sub-title, 'An Introduction to Austrian and German Architecture from 1580 to 1790', there can be few examples of any note that he has omitted. In fact the first 130 pages are so packed with information and comment that the enthusiasm of even the most avid reader is quickly stifled.

It is difficult to understand for whom this book was primarily intended. It certainly is not light reading for the amateur. No one could be expected to read it, like a novel, from cover to cover. He would be a determined man who got beyond the first chapter. Is it then a book of reference? Undoubtedly it can serve this purpose. The information is there, but if a reference book is to serve its purpose, the information must also be readily accessible.

Mr Powell, within the broad terms of reference of his chapter headings - 'Sacred Building from 1583 to 1704' . . . 'Secular Building in the Rococo Period, 1730 to

1770' . . . and so forth - drifts happily from building to building with hardly a pause for punctuation. There is nothing for it but to pick on a chapter and to wade through it until the required information is found. The index is classified, and this serves to break it down into manageable proportions. 'Religious Orders', 'Historical Landmarks', and 'General (selective)' make excellent subdivisions, but he runs into trouble when he tries to subdivide into categories the architects, painters, sculptors and other craftsmen, of an age which prided itself upon its versatility.

But for the reader seeking information, the most important part of the index is the Index of Places. This he has also subdivided, and though a reader may know whether the building in which he is interested is in Austria or Germany, how many would know sufficient of German geography to know whether it was, for example, in Franconia or Württemberg? After all, how many Germans - or for that matter how many Englishmen - would know whether to look up Tewkesbury under Hereford, Gloucester or Worcester? Mr Powell would have saved the reader a great deal of trouble if he had kept strictly to alphabetical order in his index of places, and noted their postal addresses in parenthesis.

But his book would have been more useful still if it had been all in alphabetical order; if it had been, so to speak, tabulated.

His chapter headings could have been the same, but within those chapters the fund of excellent information would have been easily accessible for anyone who needed it. It might then have been derided as a Guide Book, but that is exactly what it is, a guide book from the Baroque to the Rococo, a guide book through which the reader cannot find his way. But even if such an important reference as Nymphenburg is concealed under S as Schloss Nymphenburg, and only then discoverable if the reader knows that it is first in Germany and secondly in Bavaria, the author is more than forgiven for his excellent Glossary, his Index of Iconography, and for his fascinating notes on symbolism contained in the text.

It is really at page 131 that the book gets into its stride. The chapters on Patronage, Colour, Sculpture, Decoration, and the Origins and Significance of the Late Baroque, are not only full of valuable information, but eminently readable. Mr Powell's perorations at the end of some of these chapters are masterly, and make one wonder if all the preamble was really necessary.

The illustrations are adequate, but do not compare well with those in German books on the same subject. It has now come to be accepted that they have all to be bound together at the back, but these seem to have been arranged in a strange order, and they are generally too small for the subjects they portray. There are no drawings in the text, but there are two maps and seven plans. This is far too few for a book that deals with over 500 examples in the text. Ten times the number of plans would not be excessive, but such plans as there are have been printed from bad blocks so that they are hard to read. What is worse, they carry no indication of scale, so that the reader has no idea of the size of the building.

But one cannot have everything, and in

this book one certainly has information, even if it is hard to extract. And the last five chapters make fascinating reading. How much better it would have been if he had started his book with these, for they entice the reader to continue, and with the overall picture so well framed in his mind, the reader could better appreciate the remainder.

When the time comes for a next edition, as it surely will, perhaps Mr Powell will consider a little rearrangement. The book will then be essential to every library, however small.

T. H. B. BURROUGH [F]

Baroque Churches of Central Europe.

By John Boweke. 9 in. 289 pp. illus. Faber and Faber. 1958. £1 16s.

In 1914, when Geoffrey Scott published his *Architecture of Humanism*, an interest in Baroque buildings gradually arose. The style was accepted; though it was considered frivolous, dreadfully foreign and something sinister to do with the Jesuits. But, 40 years later, it is as fashionable to make a tour of these great churches in the central areas of Europe as it is to go round the English Gothic cathedrals. A guide like this book is therefore most valuable.

Yet it is more than a guide in the usual sense. For it begins with two well written essays; one on the historical development, and the other on the spirit of Baroque. Then, in 250 pages, we are taken through the years from 1650 to 1800 and are introduced to a great number of churches in Southern Germany, Switzerland and Austria. (Presumably the iron curtain prevented the inclusion of Prague and the exhilarating monastic or parish churches in Czechoslovakia.) Notes on the architects are given; and 66 excellent photographs illustrate their works. Among these the dozen details of the altar statuary at Diessen, Rohr and Osterhofen are singularly attractive. Even a few small scale ground plans are thrown in, and we are told, with maps, how to get to places by rail, bus or car. This is an exemplary guidebook and, as well, it is clearly an incentive to the exploration of this notable architecture.

A. S. G. BUTLER [F]

Hawksmoor's Designs for All Souls.

Oxford University Press, for the Librarian, All Souls College, Oxford. In portfolio, £4 4s. (plus packing and postage, 11s. in UK, 16s. abroad). Rolled, £2 17s. 6d. (plus packing and postage 7s. 6d.).

All Souls College published three engravings in 1717 (though one is undated) and three more in 1721, from drawings by Hawksmoor, showing the manner in which he intended at that period to complete the college. The idea was to have something to show to possible benefactors; there was no connection with the *Oxford Almanack*. The College has this year re-published them in the form of 300 sets of pulls from the original plates, which (with two of the pattern drawings) are still in its possession. This is a splendid gesture and the modern impressions are splendidly successful; reprints could be no better. They are accompanied by the first publication that is both complete and accurate of Hawksmoor's *Explanation*, a long and charac-

teristic letter of 1715 in the College archives which describes his intentions for the buildings in general, and a number of large drawings – not the engravings, which differ from them considerably – in particular. This publication is too big in every sense for the coffee-table. Enthusiasts who cannot run to the portfolio will have to provide either frames or a solander case.

KERRY DOWNES

Modern European Architecture.

By A. Dorgelo. 14 in. 243 pp. incl. illus. Elsevier (London Distributors: D. van Nostrand). 1960. £7 12s.

This is a very well produced picture book of 12 building types in 17 countries of Europe. There are not only about eight pictures on an average to each subject, but comprehensive, and quite large, plans and sections. In this respect the work is exemplary. Further, there are brief summaries of each building programme and an outline analysis of structure, finishes, costs, etc., although the latter information is given under an absurd decimal system, which looks like a railway time-table and achieves nothing.

The weakness of the book lies in a too impartial selection; no country must be offended by omission, no major aspect of the chaotic patchwork of present-day architectural schools omitted. It is hard to imagine a serious objective coverage of European architecture since 1945 that can include Le Corbusier's Nantes scheme and J. J. P. Oud's Shell Building in The Hague, while excluding works by Aalto, Arne Jacobsen and Nervi.

M. D. BEASLEY [A]

Verwaltungsbauten

By Herbert Rimpl. 11 in. 244 pp. incl. 655 illus. Berlin: Ullstein Tachverlag. 1959. 58 Dm.

An enormous amount of public and private money and architectural design time is invested each year in new office building. This happens not only in this country, but also on the Continent, in the Americas and elsewhere. A new and thorough investigation into building offices is therefore welcome, and this German language publication should substantially help architect and client. One of a series of architectural volumes of the 'Ullstein Tachverlag', of which Neuferts' *Bauentwurfslehre* is probably the best known in this country, the book is typical of the high standard which we have come to expect from this publisher, page layout and typography being of a uniformly high standard.

It is divided into three main sections. Part I deals with general principles and the basic essentials of designing office buildings, types of construction and materials. Part II consists of a selection of completed office blocks described and illustrated. Part III complements Part I with photos of special technical and other services.

Some 45 completed office blocks have been analysed in detail. Most of these are German buildings, with a sprinkling of American and Scandinavian examples. In each instance a brief general description is followed by an analysis of areas of special rooms and features. The construction and materials are listed, and everything is lavishly illustrated with site plans, floor

plans, details of construction and photographs of the completed building.

Useful and pleasant, if rather expensive, Professor Rimpl's book shows how international certain types of architectural design have become. It would have been very easy to assign most of the buildings illustrated to fashionable English architects. Is this due to architects responding similarly to functional requirements, regardless of time or place, or are they all overwhelmingly influenced by the three or four giants of our profession?

FELIX DARNELL [A]

Gothic Cathedrals of France and their treasures.

By Marcel Aubert in collaboration with Simone Goubet. 10 in. 170 pp. + 462 plates, 18 plans. Nicholas Kaye. 1959. £5.

This handsome volume tells the story of Gothic in France by briefly analysing 78 cathedrals in their historical and artistic context. The principal features, however, are the 450 heliogravure plates, which illustrate superbly both the structures themselves and a large number of details. This does not mean that the text is negligible. It contains, in fact, a great deal of relevant and interesting material, skilfully handled. The book is not, of course, written for the specialist, but for the general reader, for whom it is admirably designed. No college library should be without it.

R. HERZ [F]

The Neale Bursary, 1957.

Early Meeting Houses, by H. Godwin Arnold, B. Arch. [A]

This report embodies the result of two tours in 1957 and 1958 during which Mr Arnold visited a large number of 17th- and 18th-century buildings. Most of them belong or belonged to the Society of Friends and the Unitarians, but Baptist and Congregational chapels and those of other denominations are also covered.

In spite of their length the lists are found to be incomplete and among the buildings missing are the Friends Meeting Houses at Hemel Hempstead, 1717 (Herts.), Spice-lands (Devon) and Leighton Buzzard (Beds.), and there appears to be an inaccuracy in regard to the Oxford Quaker property which the report states was closed in 1746. A 17th-century building is still in general use there though Thomas Rayson's new meeting room on the garden behind has been built lately.

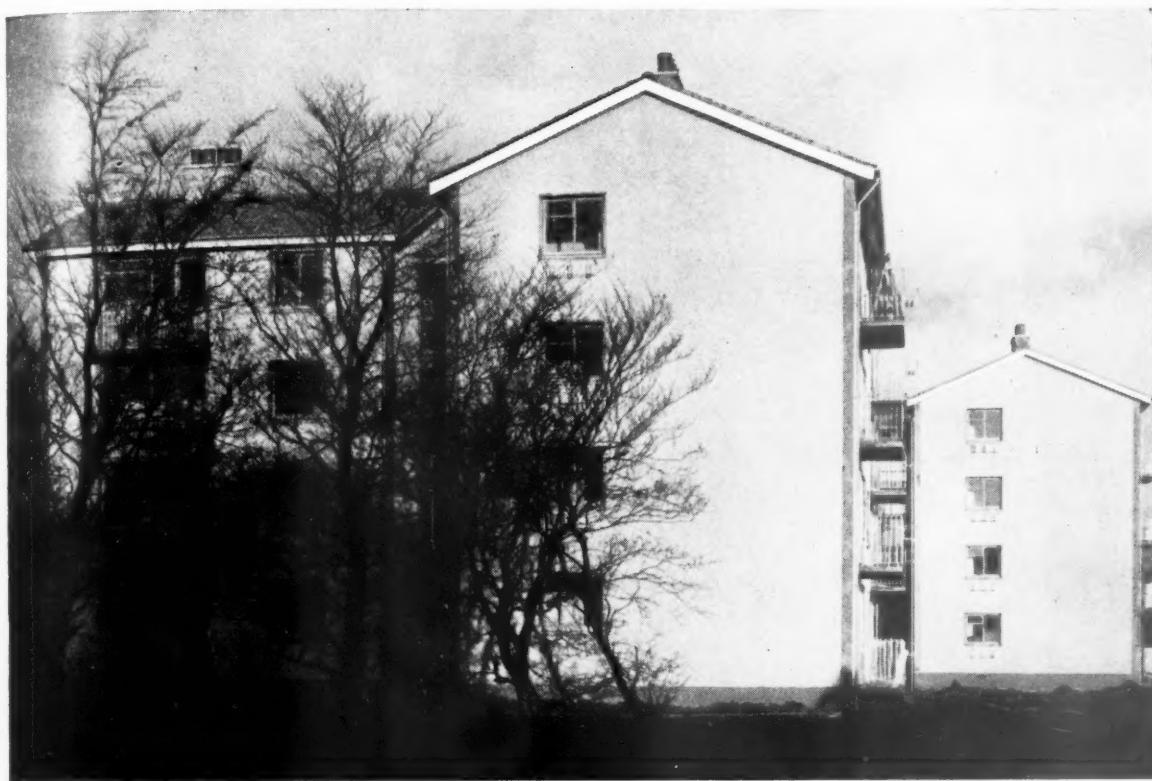
Most of the Quaker buildings are quite small and the well-known example at Jordans (about 31 ft. by 20 ft.) incorporating a two-storey portion at one end is typical. The Unitarian chapels are larger and several of them including Cirencester (1648) and Billingshurst (1754) are of a dignified simplicity.

The report is mainly a description of the buildings and as such makes no attempt to consider the relationship between the architecture of early Nonconformity and that of the established Church. The drawings in a separate volume are well presented to a uniform scale.

Mr Arnold's work will be a useful source to anyone studying the history of the smaller religious buildings of the 17th and 18th centuries.

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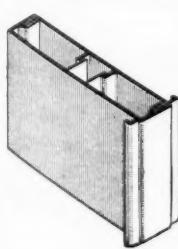
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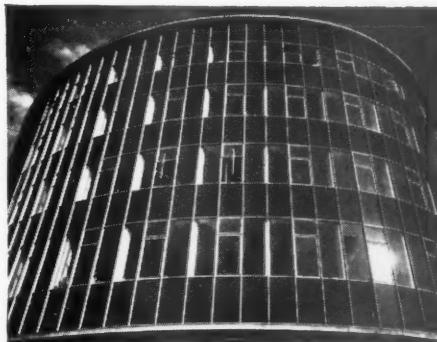
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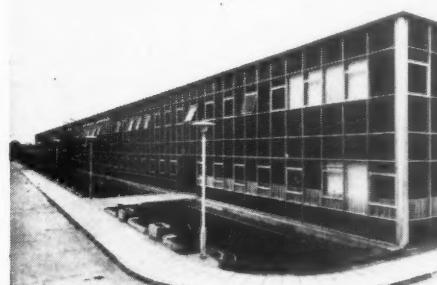


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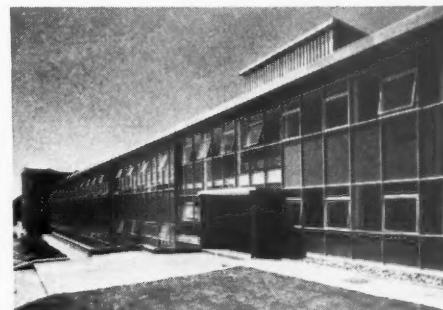
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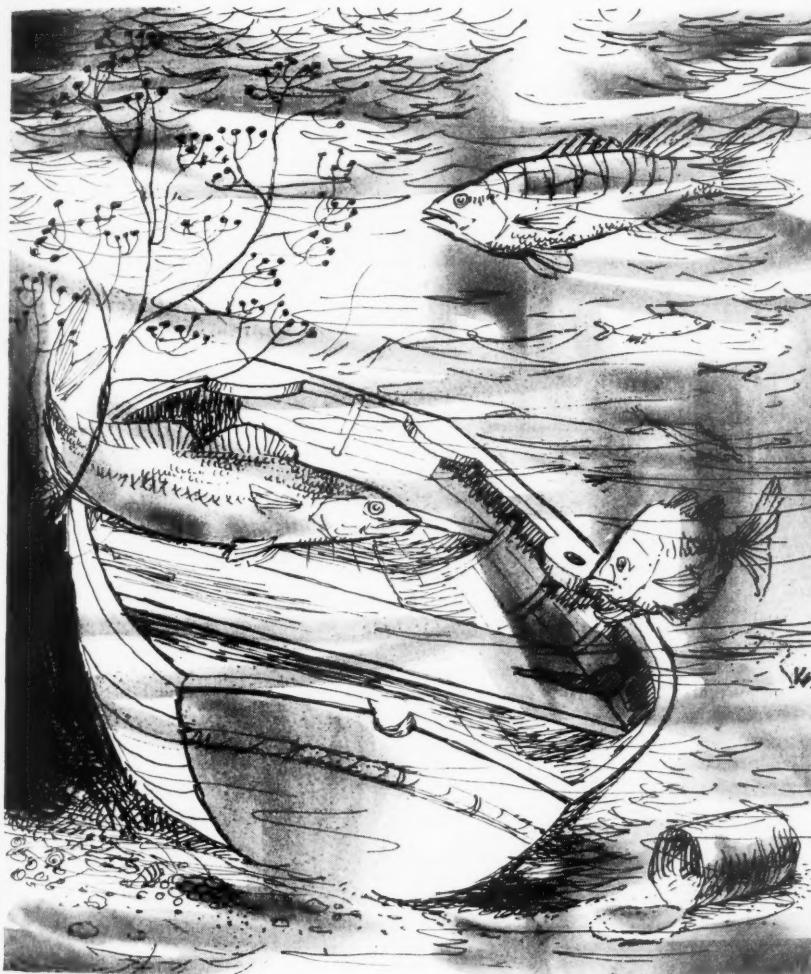
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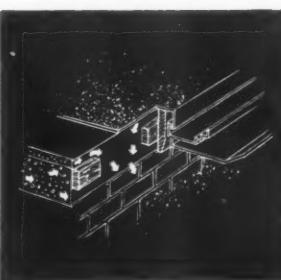
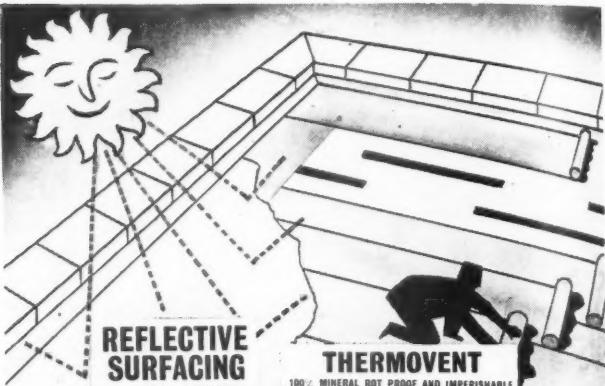
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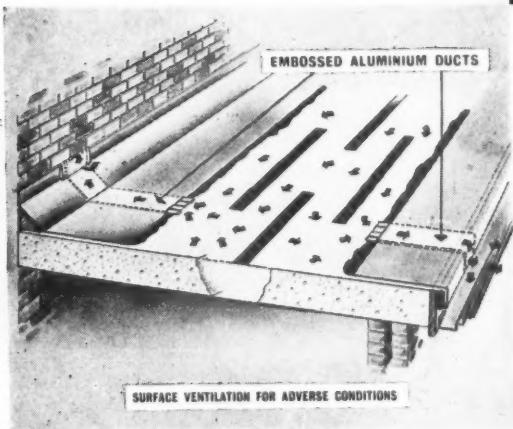
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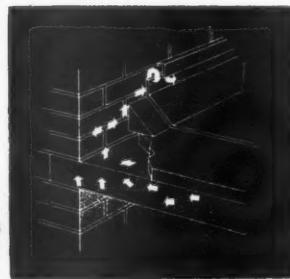
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'Perspex' is the registered trade mark for
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P782





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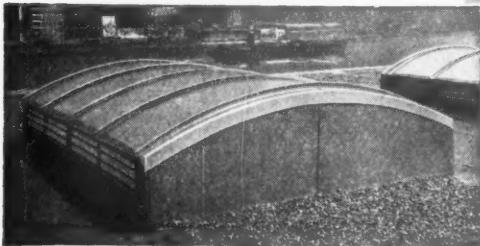
Branches in London, Glasgow, Birmingham and towns throughout the country

©BG345

Ventilation *plus* daylight

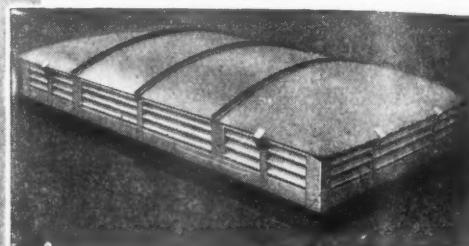
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Specifically designed to give both low overall height and unobtrusive appearance, the Greenwood-Airvac patented range of Dome and Continuous Rooflight Ventilators provides fully weathered controllable or permanent ventilation with maximum daylight.



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In extended lengths from 4' 0" and nominal widths of 3' 0" to 7' 0" in multiples of 6". With internal controllable shutters for long arm or remote control operation.



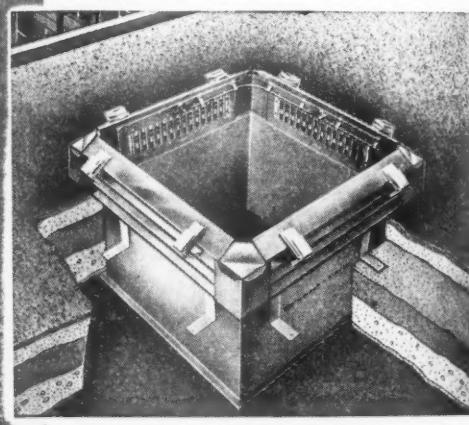
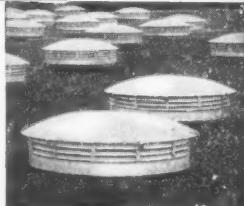
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DOME VENTILATORS.

To fit circular domes from 18" x 72" diameter or rectangular domes from 30" x 30" to 48" x 72" in glass, "Perspex" or fibreglass. Constructed of heavy gauge steel, galvanized after manufacture, and fitted with weatherproof external louvres.



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this is the story ...

Newly developed G.E.C. magnetic switch controllers, the first of their kind in the world—shown here in an outline drawing—control all lighting in the two new operating theatres of the Western General Hospital in Edinburgh. Of unusual, almost ovoid shape, these theatres are equipped with the most modern apparatus to assist the work of the eminent brain surgeon and his staff.

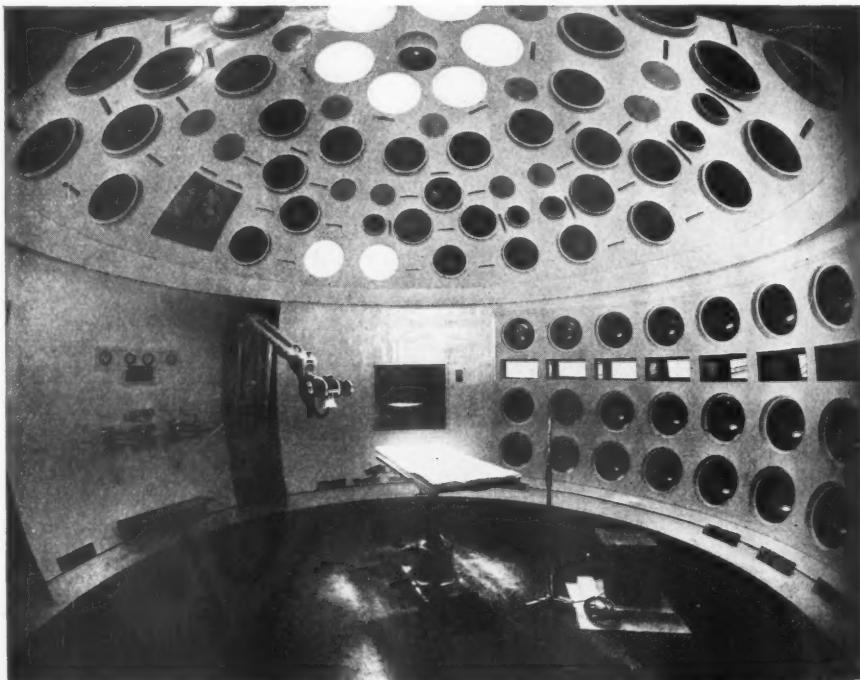
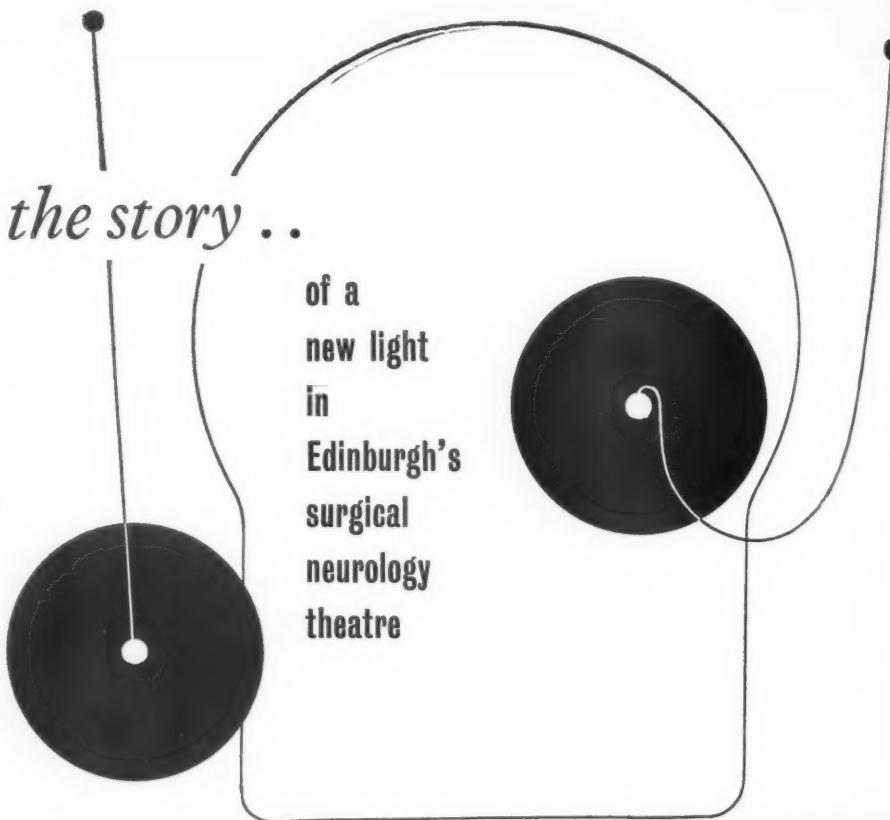
Each theatre has 18 lights for general illumination and 68 adjustable operation projector lights specially designed and made by the G.E.C., using special silvered Osram 75W small filament lamps.

The new and patented magnetic switch controller is designed for simplicity and safety in operation. Briefly, it consists of magnetic switches located behind a metal panel on which is outlined the shape of the ceiling and wall lights, as shown.

The lights can be quickly and easily directed during operations by simply moving metal plates across the panel which switch on groups of lights corresponding to the pattern of the plates. Usually 12 lights are in use at a time providing over 2,000 1m/ft² at the focal point on the table. All electrical maintenance and lamp replacement is effected from outside the theatre.

Britain's leading lighting designers are proud to add this installation to their outstanding record of achievements.

of a
new light
in
Edinburgh's
surgical
neurology
theatre



ARCHITECT-John Holt, F.R.I.B.A., F.R.I.A.S., A.M.T.P.I.
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BAGHDAD—New Houses of Parliament

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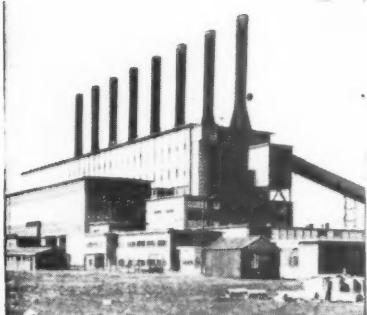
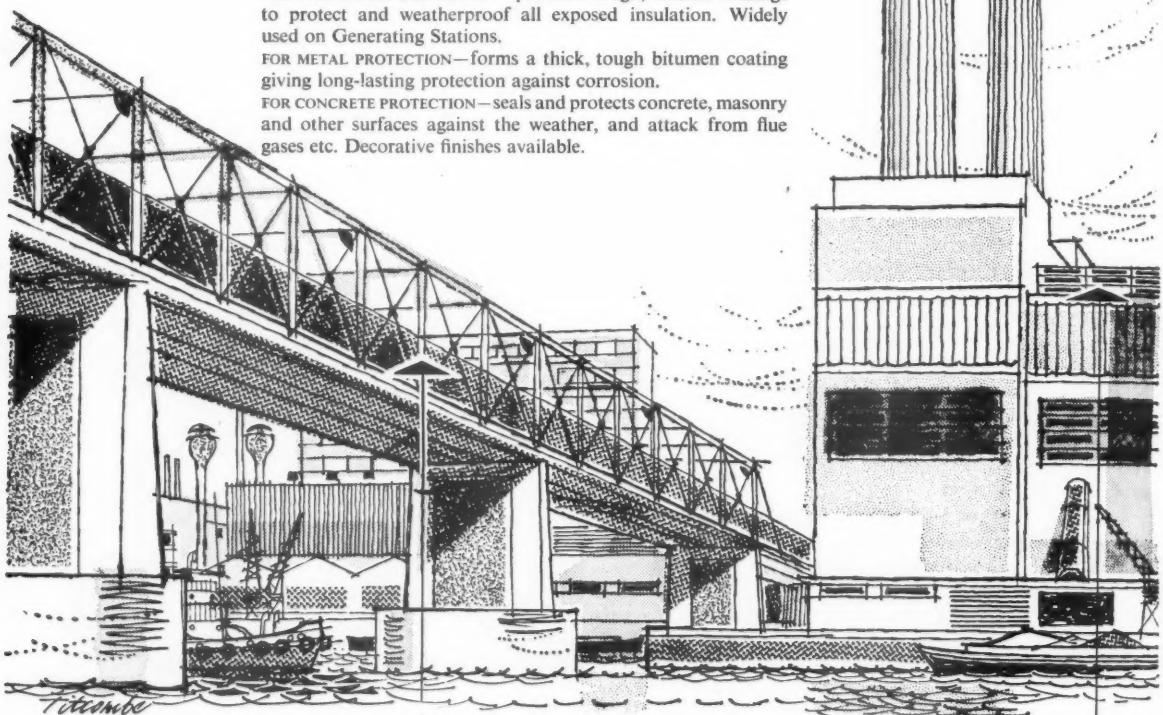
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REINFORCED CONCRETE DESIGN GROUP

The Reinforced Concrete Design Group is an independent professional team created by Expanded Metal as part of their service to the building industry.

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How to get a better roof with Tecton Beams— quicker, easier, cheaper



Tecton purlin beams used in house construction at Abbotts Langley
Architect: Erno Goldfinger, DPLG LRIBA. Contractor: Drury & Co. Ltd.

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Tecton

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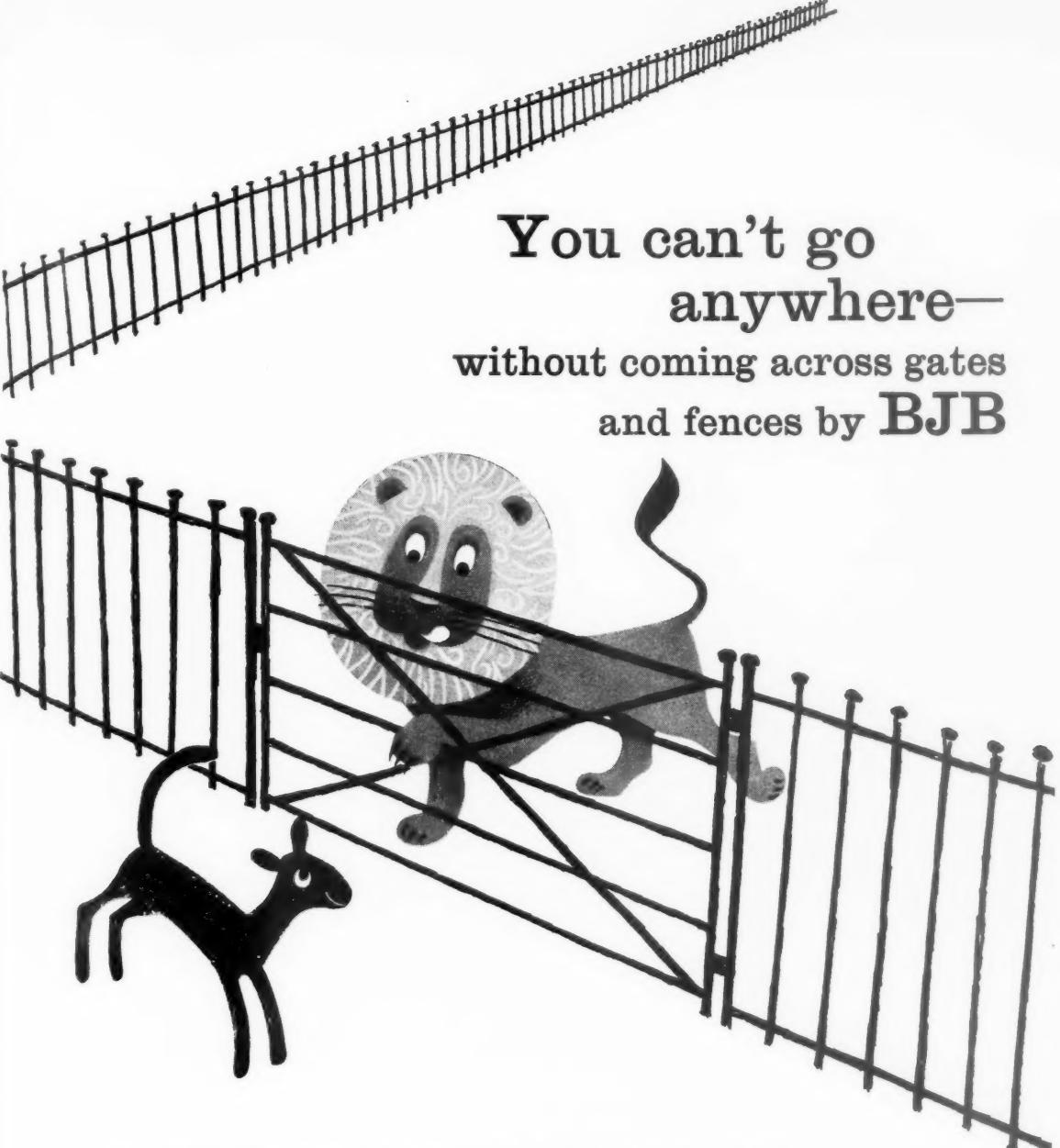
PLEASE SUPPLY FREE quote against my drawings which I enclose - with no obligation, of course.

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It pays you and your clients to put in *solid fuel* central heating



Lowest running costs. The big news in central heating these days is the amazing cheapness of the solid fuel systems. For example, the average weekly running cost for a two- or three-radiator system can be as little as 9/9d! Just compare that with oil, gas and electricity—see chart on right.

Lower installation costs. Compared with oil, solid fuel systems are much cheaper to buy and install. The new solid fuel boilers are really streamlined and require very little attention. They are thermostatically controlled and finished in gleaming vitreous enamel in a range of modern colours.

N.C.B. Housewarming Plan—offers a personal loan to cover the cost of a central heating installation. Low interest—five years to pay—tax relief.

Lowest maintenance costs. Solid fuel systems cost practically nothing to maintain. But with other fuels, skilled maintenance is necessary and this can cost from £5 to £15 per year—another 2/- to 6/- a week on the running cost.

Compare the costs. These are typical weekly costs, averaged over the year, for centrally heating a three-bedroomed house or bungalow—and hot water summer and winter. Look how much cheaper solid fuel is.

6 or 7 radiators and hot water ▼			
2 or 3 radiators and hot water ▼			
COKE in independent boiler	9/- per cwt	9/9d	15/-
SMALL ANTHRACITE in gravy feed boiler	12/- per cwt	—	14/1d
GAS	1/4d therm plus, say, 2/8d a week standing charge	16/1d	23/6d
ELECTRICITY	1d unit (No standing charge included)	18/2d	29/10d
OIL	1/5½d gallon * 12/10d	22/8d	

* plus 2/- to 6/- a week maintenance cost.

Write for **FREE** booklet on Central Heating and list of other technical publications to the Coal Utilisation Council, 3 Upper Belgrave Street, London, SW1. Also available 'Central Heating for Houses', a complete 120-page illustrated survey of all the various systems available, from the open-fire-and-back-boiler to the small pipe system. Copies 2/6d each.

**The cheapest
central heating
there is—
SOLID FUEL**



ISSUED BY THE COAL UTILISATION COUNCIL



SWEDISH PERSTORP DATA SHEET 1

WHAT IS IT?

Swedish Perstorp is a decorative plastic laminate. Paper sheets are impregnated with phenolic and melamine resins: Great pressure and high temperature are applied. The result—a first-class laminate of top quality.

WHERE IS IT USED?

For bar, counter, working surface: In kitchen, bathroom, cloakroom: On wall, desk, door. Behind sink, basin, bowl: As finger plate, table top, kick guard: On ship, bus, railway: In hotel, office, home: In laboratory, canteen, shop: For dining, working or decoration.

WHY IS IT USED?

For surface protection and decoration.

WHAT PARTICULAR ADVANTAGES DOES PERSTORP OFFER YOU?

Architect selected colours All of the 68 Perstorp patterns and colours have been chosen by an architect in conjunction with a colour specialist. A large number of the colours conform to the Munsell classification; all are delightful.

Surfaces Perstorp can be made available in Glossy, Satin or Matt finishes. However, the standard surface is the unique and delicate Satin finish which over the years has been proved a most effective compromise between Glossy and Matt.

Time-proved in use Perstorp, being the original plastic laminate has stood the test of time. When you specify Perstorp you have the assurance of

knowing that this laminate has been proved in use by architects from the Arctic Circle to the Equator ... for more than 35 years.

Uniform colour cost All colours and patterns, including wood grains, are available at the same low sheet price.

Special colours, patterns and grades

For installations requiring a reasonable number of panels, Perstorp can be supplied in your own colour or to your own design. Special flame-proof grades, cigarette-proof grades, special thicknesses and double-sided laminates are all available. For information concerning all these you should contact your Distributor.

OTHER ATTRIBUTES

Swedish Perstorp, which is waterproof, is also resistant to heat and flame, steam and damp. It is not liable to be attacked by woodworm, termites, beetles, borers, and dirt and germs cannot penetrate

its hard surface. It wipes clean with a little soap and water and is virtually indestructible. Stubborn marks vanish when rubbed with acetone.

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Harris Wharf, Graham Street,
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Swedish Perstorp Data Sheet 2 gives you information about:

PHYSICAL TOUGHNESS · SHEET SIZES · THE COLOUR AND PATTERN RANGE



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Wood windows are ideal in every way for Houses, Flats, Schools, Hospitals, Offices, Factories.

Wood is functional, lasting, economical to install and maintain, and provides maximum flexibility of expression. Furthermore, wood windows reduce heat losses, sound transmission, condensation. Remember, too, with wood windows you are ensured a quick delivery. Advice on wood windows suitable for all types of buildings gladly given to all architects and surveyors.

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You'll be glad you chose WOOD windows!

WHICH WAY DOES A WHIRLPOOL WHIRL?

Anti-clockwise, I think ...

But someone said it was clockwise
on the other side of the Equator.

Gurgles just the same I'll bet.

There goes the last of the water.
Down the pipes and into the drains

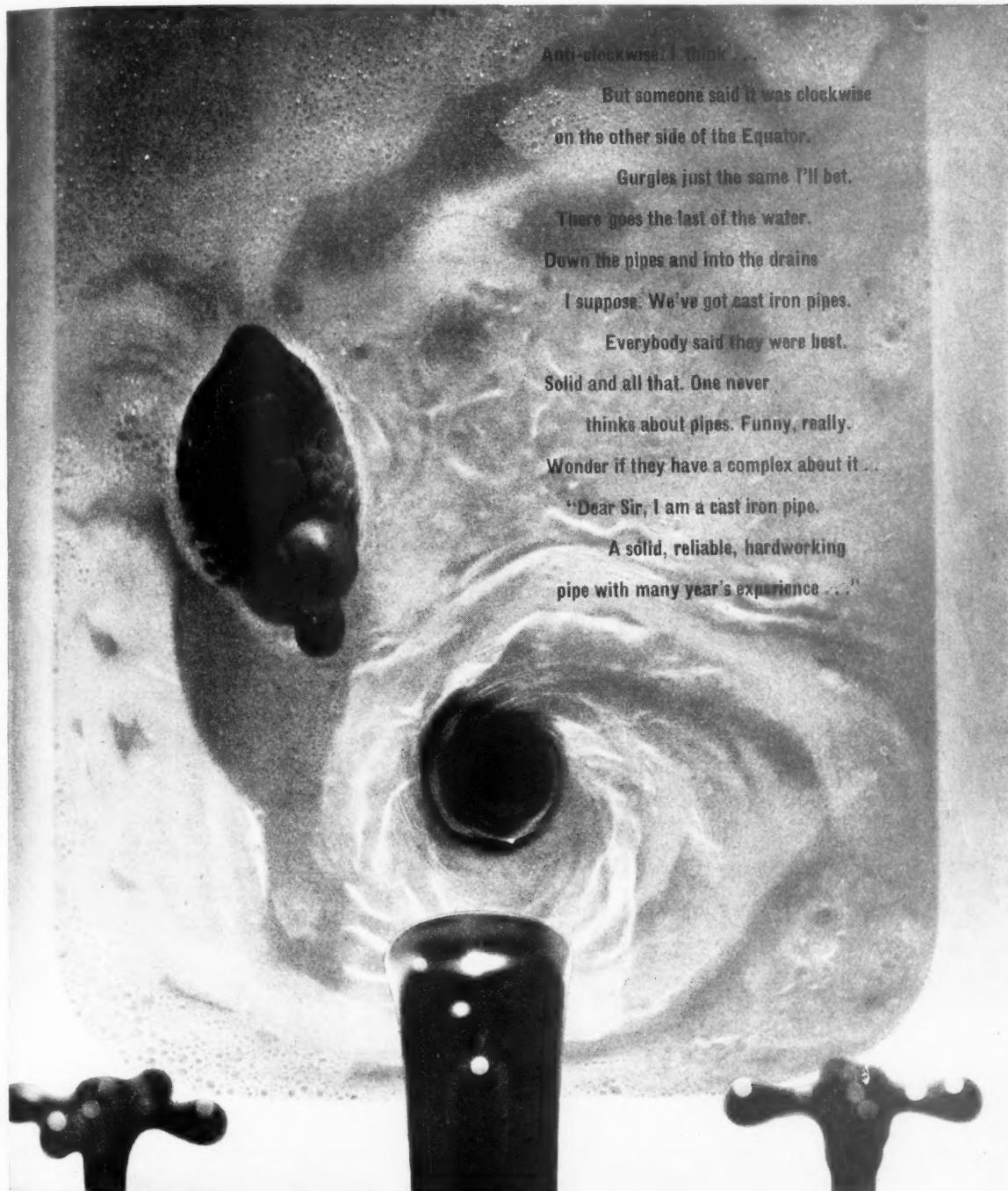
I suppose. We've got cast iron pipes.

Everybody said they were best.

Solid and all that. One never
thinks about pipes. Funny, really.

Wonder if they have a complex about it ...

"Dear Sir, I am a cast iron pipe.
A solid, reliable, hardworking
pipe with many year's experience ..."



rainwater and soil goods division of **ALLIED IRONFOUNDERS** KETLEY WELLINGTON SHROPSHIRE
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Academy Green Development, Birmingham. Architect: A. G. Steppura Fidler, M.A., B.Arch., F.R.I.B.A., A.M.T.P.I., Birmingham City Architect
Main Contractors: Wates Limited, Birmingham

We're your Man Friday

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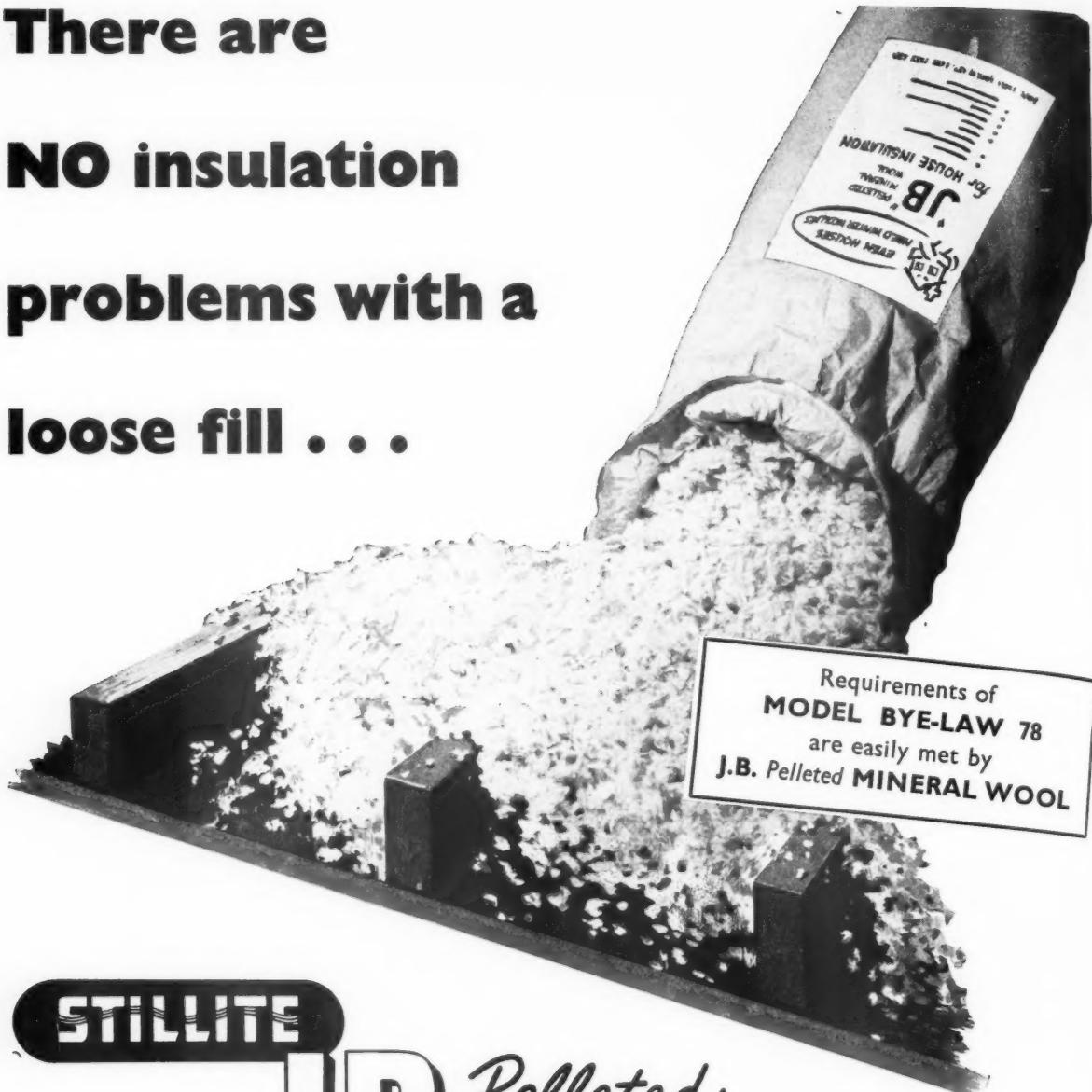
Head Office : Columbia House, Aldwych, London, W.C.2. Tel: CHAncery 8159

Newcastle : Northumbria House, Portland Terrace, 2. Tel: Newcastle 81-4323

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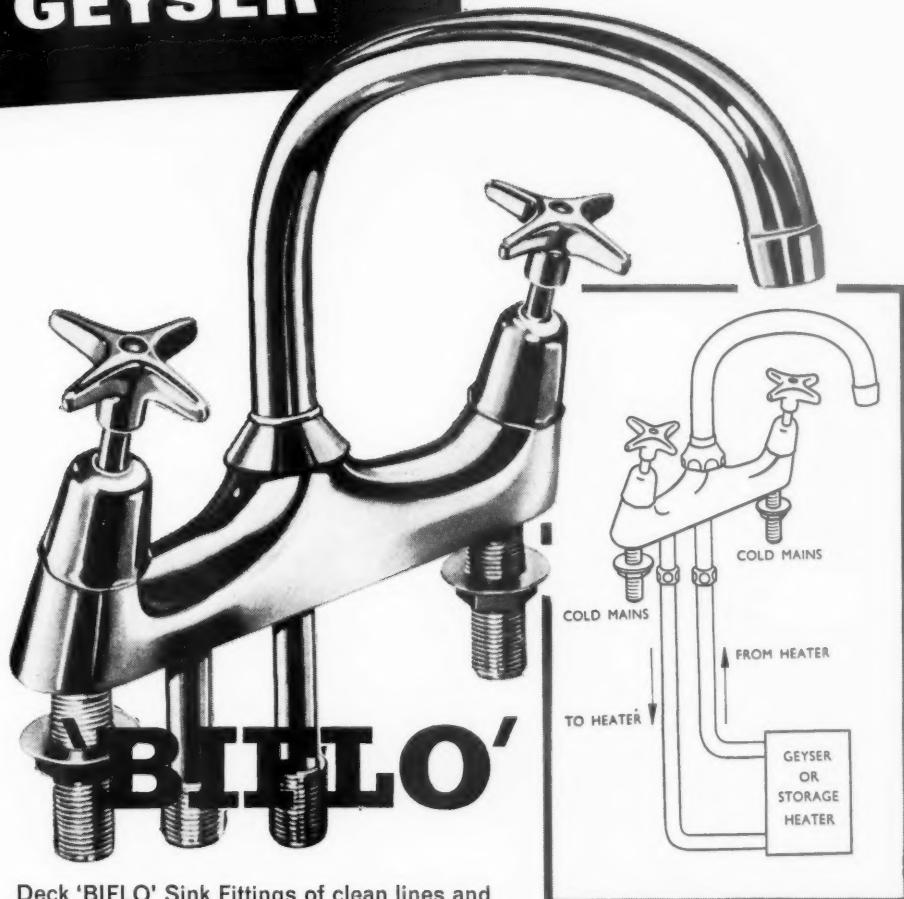
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inlet shanks of the fitting and two centre
shanks are connected to the storage heater or geyser.

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The swivel nozzle consists of two tubes providing
full $\frac{1}{2}$ " bore for both hot and cold water. Supplies
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Price and further particulars on request

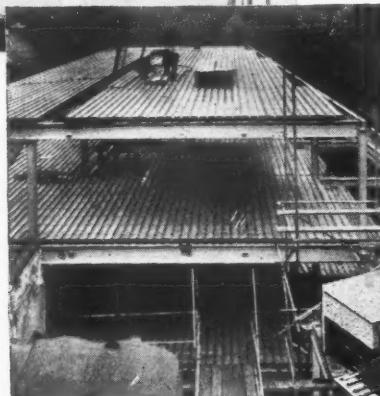
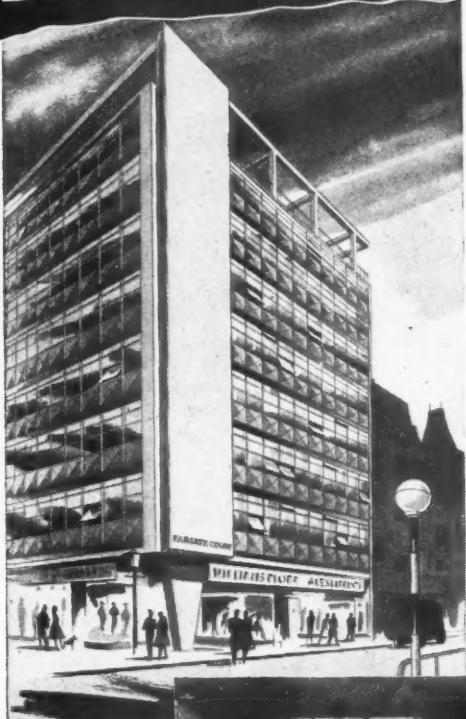


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NEW SHOPPING BLOCK

for The United Drapery Stores Group



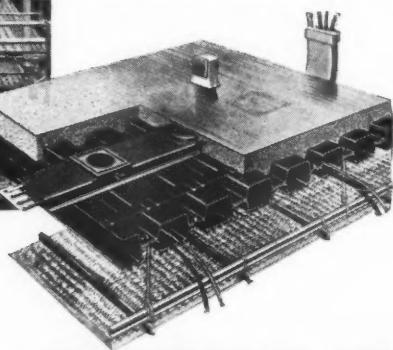
The first phase of a new super block of shops and offices in Fargate, Sheffield, for The United Drapery Stores Group, will shortly be completed. Robertson Q-Floor forms the load-bearing floor on each of the two storeys under construction. It is also specified for the remaining five storeys to be built under phase two of the development.

Essentially a quick, lightweight construction, Q-Floor as soon as it is laid serves as a working platform for other trades. It provides at a cost little more than the floor slab itself, a vast built-in network of electric wiring ducts over the entire floor area. By using Q-Floor an electrical supply can be provided quickly and conveniently at any point on the floor, a feature which facilitates the changing layout required in store displays.

ROBERTSON Q-FLOOR

the only British floor with an integral under-floor duct system.

Architects: Architects Dept., Prices Tailors Ltd.
Staff Architect: D. Greenwood, B. Arch., A.R.I.B.A.
Consulting Engineers: Laithwaite & Partners
General Contractors: Bovis Limited.
Electrical Contractors: Baker & Hyman.



ROBERTSON Q-FLOOR

ROBERTSON THAIN LIMITED

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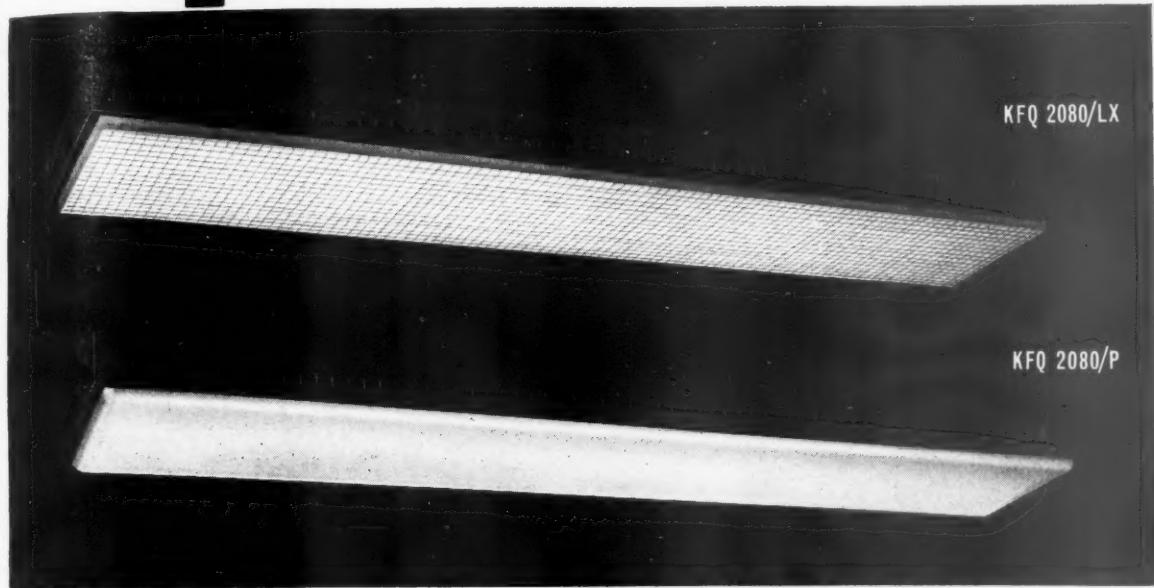


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Agents in most countries
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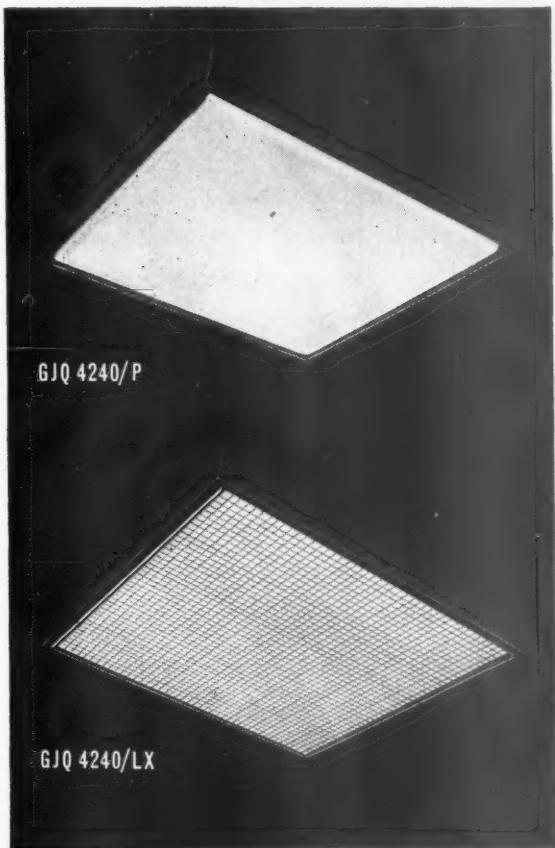
for commercial lighting

These latest additions to the Atlas KE and GJ ranges of fluorescent fittings are specially designed for use in offices and stores, where both decorative effect and efficiency must be of a high order. They provide wide scope for variation in ceiling layout, and incorporate many unique features for extreme ease of installation and servicing.

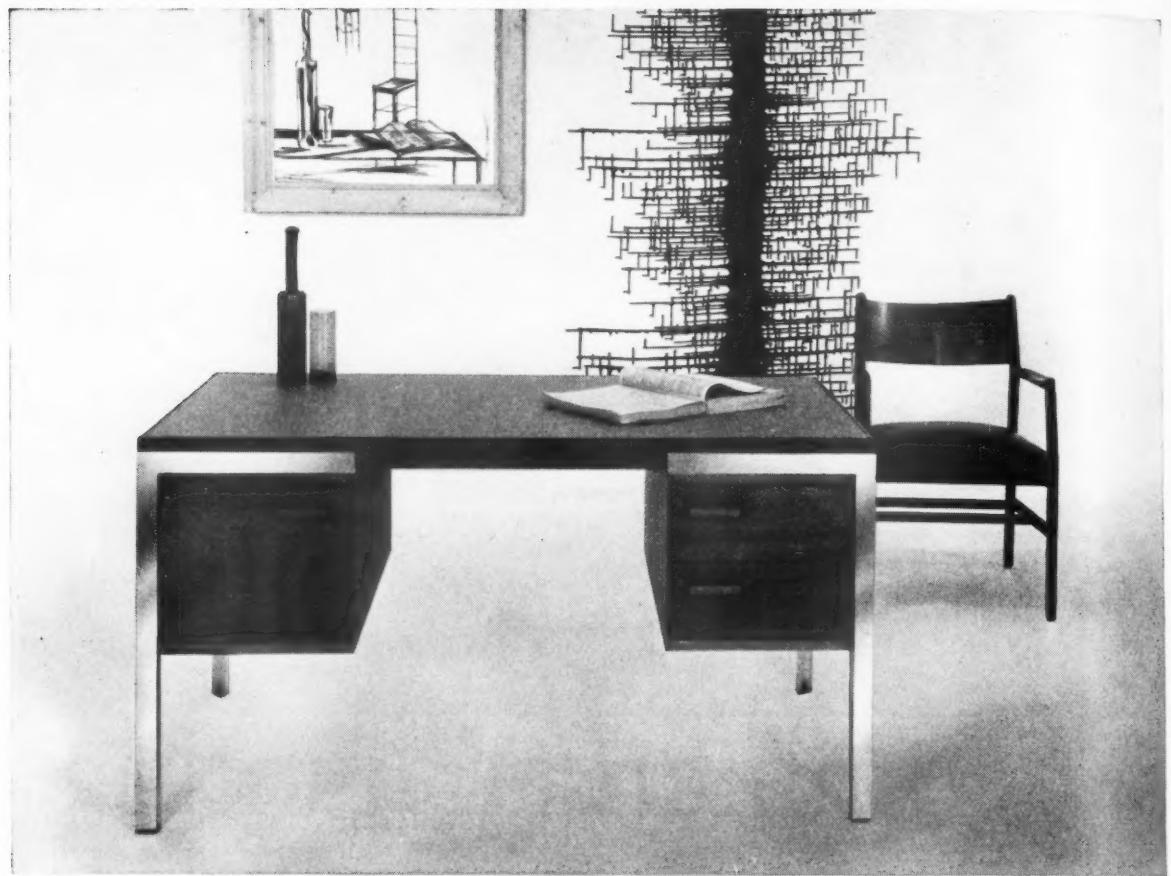
KFQ/2080/P and /LX are based on a simple batten fitting, with an extremely neat section, and house two 5ft. 80w. tubes with quick-start control gear. Spring-loaded lampholders facilitate fast re-lamping. The metal frame of both fittings is finished in mushroom grey, and slotted on all four sides. The type P incorporates an opal 'Perspex' dish, and the type LX has a Louverex diffuser.

GJQ/4240/P and /LX are slim 'wafer' fittings, square in shape (28" x 28"), for surface mounting. They incorporate four 2ft. 40w. tubes and quick-start control gear. The type P has an attractive single-piece 'Perspex' diffuser, fitting neatly into a mushroom grey metal frame, slotted to give an added degree of sparkle. The type LX also incorporates the slotted frame, with a 'Louverex' diffuser giving a greater concentration of downward light.

ATLAS LIGHTING LIMITED,
A subsidiary company of Thorn Electrical Industries Ltd.
Thorn House, Upper St. Martin's Lane, London, WC2



DTV



This is what LM do with ordinary West African Mahogany

LM's new desks (a versatile family of which this is quite a junior member) are made of perfectly ordinary Utile Mahogany from West Africa. *But*—it is bought in the log, to ensure matching of grain and colour; kiln-dried to 12½% moisture content; and kept at controlled humidity until the desk leaves the works. The finish is a special imported Danish oil, which feeds the wood and is easily maintained.

The unorthodox legs are extruded anodised aluminium, with a soft pewter-like lustre. The locks were specially designed for this range. The tops are natural grained hide, leather cloth, or veneer; this one is in pale blue.

The chair? One of nineteen. Utile Mahogany again, but the finish is a cold-catalyzed cellulose lacquer. (The easy way of applying lacquer is to put on a filler first; this causes white marks under scratches. LM do it the better way—several coats of lacquer direct on wood.) The upholstery is rubberized hog's hair on springs, and the cover, to customers' choice, is fastened with three-pronged air-driven staples instead of conventional tacks—much neater and firmer.

LM's catalogue illustrates the whole range. LM Furniture Ltd., 63 Dean Street, London W1, will send you one. Tel : REGent 1848.

LM furniture

'School's a real pleasure . . .'



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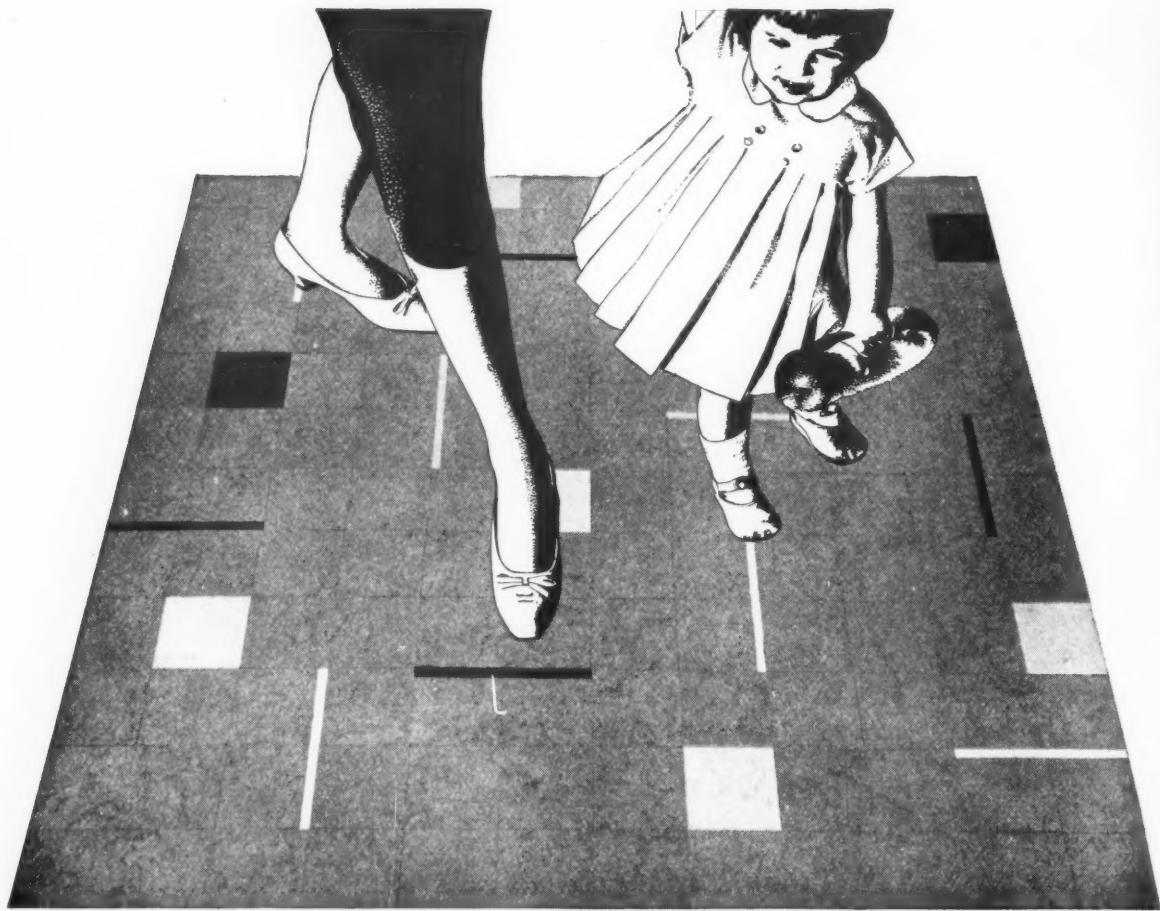
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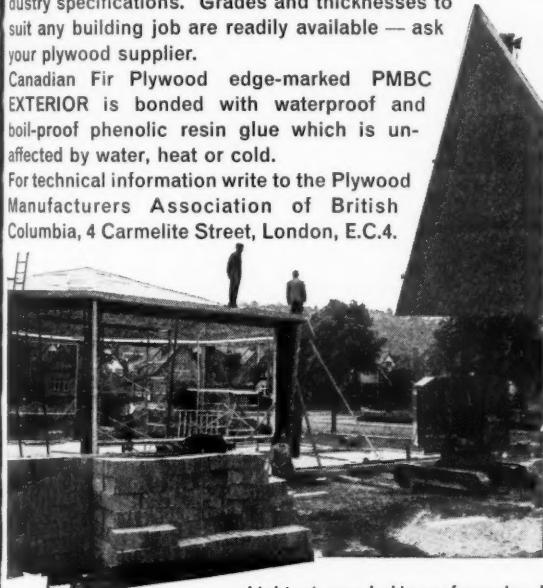
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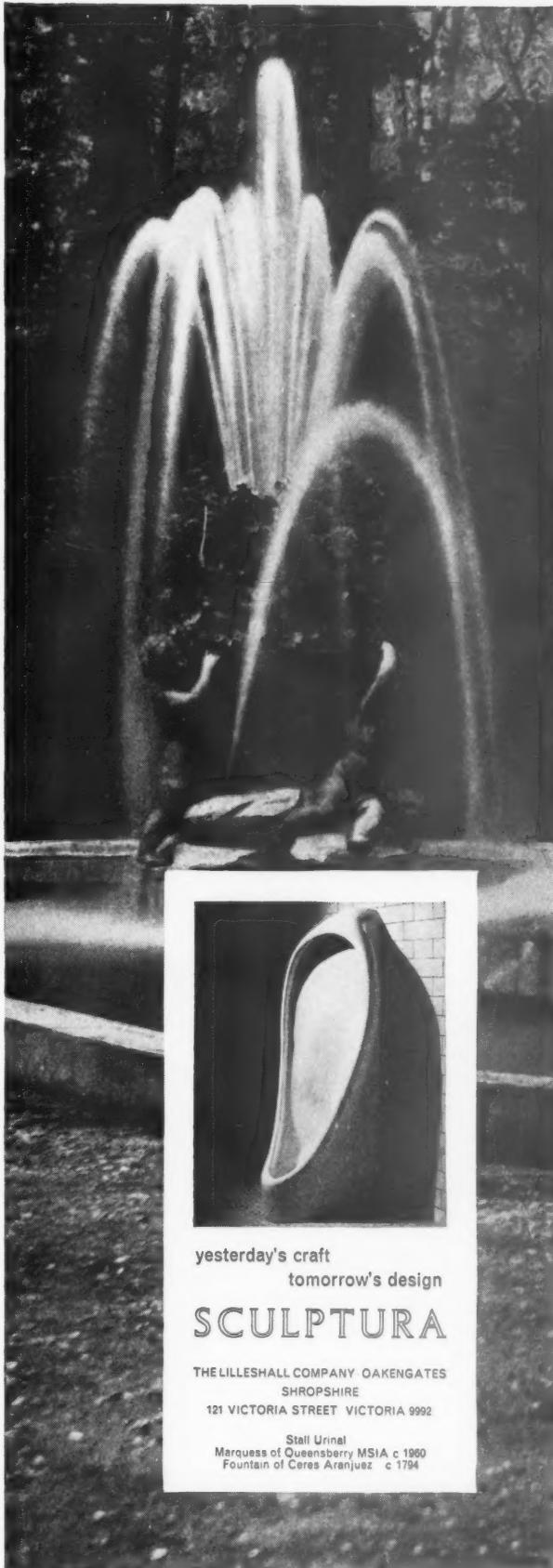


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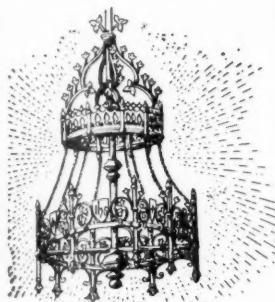
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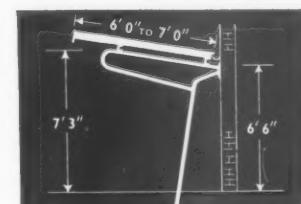
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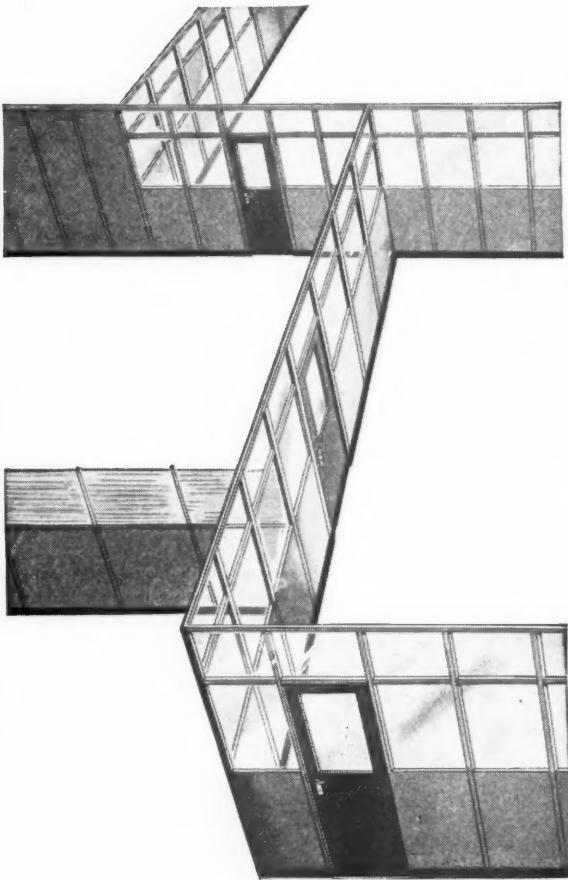
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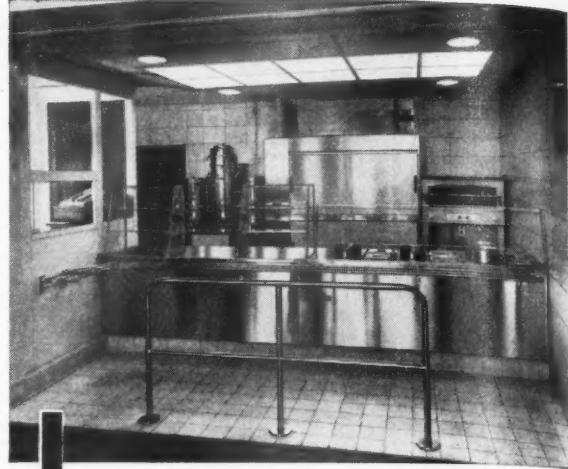
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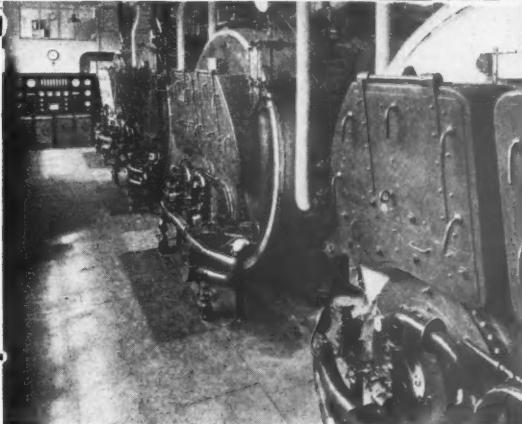
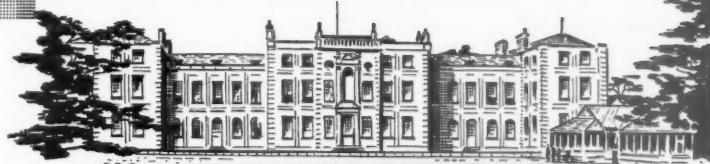
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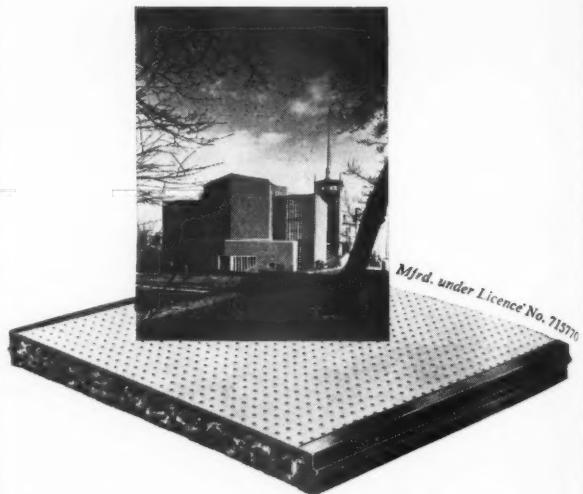
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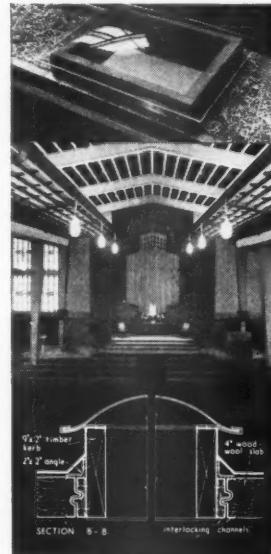
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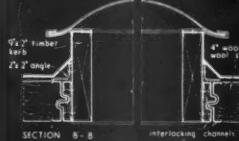
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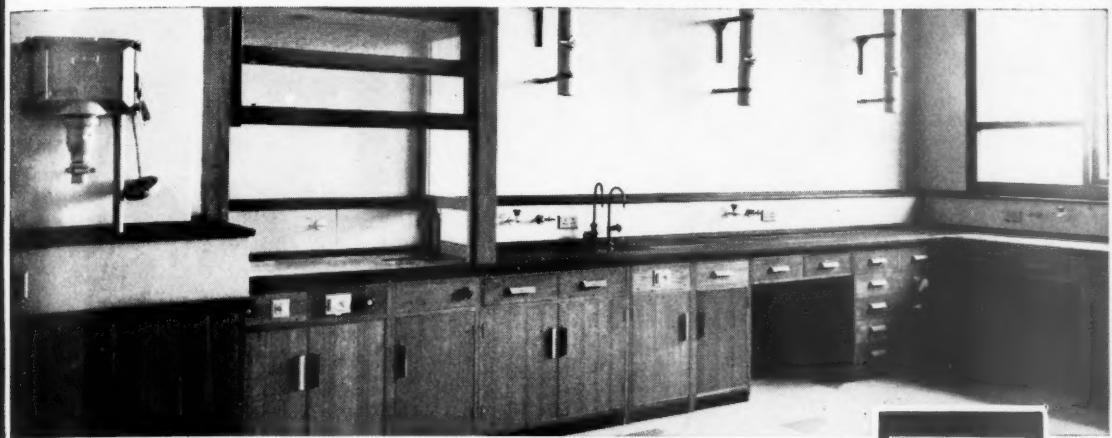
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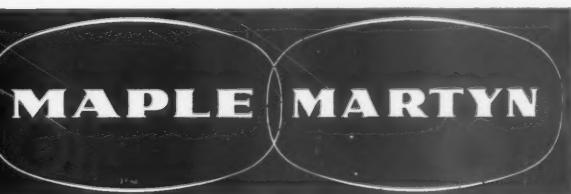
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